

Institute for Christian Teaching
Education Department of Seventh-day Adventists

A TOTAL QUALITY APPROACH TO ADVENTIST EDUCATION

by
Ben A. Maguad
Caribbean Union College
Port of Spain, Trinidad and Tobago

**375-99 Institute for Christian Teaching
12501 Old Columbia Pike
Silver Spring, MD 20904 USA**

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All schools have as their mission to provide an education to all students. It will be difficult to find one whose mission is to educate only some of the students some of the time or to provide education only to students who are in the top twenty-five percent of their class. Yet many educational systems at present recognize only a few students for excellence thus eliminating the possibility that all of them will be able to achieve the prescribed standard. To prevent this situation from happening perhaps schools need to adopt a belief system where quality is the standard; that every student if given enough time and support is capable of measuring up to some given standard of excellence.

The total quality approach constantly examines the way things are done and looks for ways to improve processes and systems in order to obtain better results. It begins with the belief systems of those parties interacting with each other. In the classroom the two main parties involved are teachers and students. If a teacher approaches a class of students believing that each is endowed with a special gift to learn, that each has hidden capabilities yet to be harnessed, that each is a potential candidate for God's kingdom, there will be a different classroom climate and the class achievement levels will rise. Conversely, if a teacher believes that students are incapable of achieving anything, every lesson, activity, or program will be geared towards proving that belief. Therefore, a teacher with the former set of beliefs will adopt a different approach and attitude and will have a higher set of expectations. The teacher's belief system is the key to opening the door to quality. However, a teacher who believes in quality must also clearly understand what it means. This understanding then becomes the road map for everything that occurs in the classroom.

Imagine a school adopting an attitude of total success for all students and allowing that belief to permeate everything that happens in the classroom and in the campus. Such belief would yield positive energy that will help both teachers and students to reach, stretch, try, and persist until success is achieved. Working together to improve classroom processes and systems will help to build trust between teachers and students which in turn will increase quality and pride-of-workmanship. Pride-of-workmanship will foster a new classroom culture where quality and fun abide.

The total quality approach works because it encourages teamwork and collaboration. It encourages everyone in the classroom to identify inadequate processes and systems and to recommend improvements. Teachers effectively foster this process by cultivating the art of active listening, analyzing, and implementing.

The purpose of this paper is to explore the possibility of integrating faith and learning in the classroom using the total quality approach. Because the scope of Adventist education is so broad, the focus of this essay is limited to the implementation of the total quality approach in the classroom within the context of Adventist higher education.

The Key Concepts of Total Quality

A number of key concepts characterize the total quality approach within a school setting. Each of these concepts is examined below.

Customer Orientation

Quality is defined by first identifying the people who use or benefit from the products and services being offered – the customers (Cotter and Seymour, 1993). These customers are then asked of their requirements and their expectations. Then the providers apply their expertise to transform the desires being expressed into a product or service that meets if not exceeds their expectations. This is how the customer orientation is developed.

Who are then the customers of education? Educational customers may be classified as either internal or external. Internal customers include students and teachers from all grades and years who teach the sequence courses in any subject matter area. External customers are parents, higher-level institutions, church constituencies, employers, the government, and the community/society at large. Each of these has certain requirements and expectations which must be taken into account by the educational institution.

Virtually every teacher-student interaction within a classroom may be considered a customer-supplier interaction. This relationship is very important for effective teamwork. Each classroom may be considered as a user of processes and systems to supply service to students, parents, and society. Another point of view is that in the classroom the students along with the teacher may be considered as the “suppliers” who produce a “product” (knowledge) that future “customers” (higher-grade levels, employers, graduate schools, or the society at large) will evaluate. Outside of the classroom, students may be considered customers in the traditional sense. Since teachers and students must work together to satisfy their customer needs, it follows that students ought to be encouraged to be involved in instructional design and evaluation and also empowered to assume more control over their own education.

Quality Definitions and Perspectives

Quality can be examined from at least three different perspectives. First, it can be examined by fact, that is, in terms of whether the product or service meets the specified requirements. Second, the quality of the process can be examined in terms of whether the process and/or system produces the product or service as intended. Finally, quality can be examined by perception, that is, in terms of whether customer expectations are met. A course, for instance, can have quality by fact and of process, yet still perceived by customers as having low or no quality. In this case, total quality has not yet been achieved. This is usually but not always the result of past poor performance.

Various definitions of quality share the following common elements:

- *Quality involves meeting or exceeding customer expectations*
- *Quality applies to products, services, people, processes, and environments.*
- *Quality is an ever-changing state - what is considered quality today may not be good enough to be considered quality tomorrow.*

Quality, based on the aforementioned common elements, may be defined as “a dynamic state associated with products, services, people, processes, and environments that meet or exceed current expectations” (Goetsch and Davis, 1995, p 3). This definition asserts that quality changes with time and circumstances. It also stresses that “quality applies not just to products and services provided, but also to the people and processes that provide them and the envi-

ronments in which they are provided” (Ciampa, 1995, p 4). The November 1992 report from the Total Quality Leadership Steering Committee, a group of American companies formed to encourage higher educational institutions to teach and practice quality, suggested the following definition:

Total Quality is a people-focused management system that aims at continual increase of customer satisfaction at continually lower real cost. Total Quality is a total system approach (not a separate area or program), and an integral part of high-level strategy; it works horizontally across functions and departments, involves all employees, top to bottom, and extends backwards and forwards to include the supply chain and the customer chain. Total Quality stresses learning and adaptation to continual change as keys to organizational success.

The foundation of Total Quality is philosophical: the scientific method. Total Quality includes systems, methods, and tools. The systems permit change; the philosophy stays the same. Total Quality is anchored in values that stress the dignity of the individual and the power of community action (Siegel and Byrne, 1994, pp 18-19).

Fields (1994, p 18) defined total quality as “everyone committing to meeting or exceeding customer expectations.” This definition is people oriented because it begins and ends with people. A total quality education then would be one in which everyone promises to serve one another according to each other’s education requirements. It is important to note that this strategic definition of quality management is becoming synonymous with the definition of the subject of management itself. Plunkett and Attner (1997), authors of a recent management textbook, defined management as “meeting and exceeding customer expectations.”

Continuous Improvement of Processes and Systems

The term process refers to all of the combined tasks or steps necessary to accomplish a given result. A system, on the other hand, pertains to an arrangement of persons, places, things, and/or circumstances. In conjunction with these definitions it’s probably important to understand the complexity of most processes and systems that produce a product or service. For example, within a classroom setting, complexity can be defined as extra steps added to a process to deal with the errors in the preceding educational experiences of students, or steps added to recover from errors occurring in the current classroom experience. A school can be seen as a system: a teaching and learning system. The best way to improve teaching and learning is to continuously improve the processes that make up that system.

Systems thinking tells us that every piece of work is a web of interdependent and interlocking factors that revolve around a common purpose. It also tells us that parts must be understood in the context of the whole. The interrelationships among the parts are important because how the system behaves (and the majority of its problems) depends on the design of the system or how the web fits together. Fixing a problem on one part without thinking in systemic terms often results in the fix being canceled by resistance from another part of the system. Attempts to solve a problem in one part of the system at the expense of other parts can cause the overall system to get worse instead of better.

Proponents of the total quality approach stress that since management controls at least 85% of the processes and systems in which the employees work, most poor quality is the direct result of poor management. If the teacher controls 85% of the classroom processes and systems, he or she can influence students to seriously commit to quality. If he/she directs all his/her energies towards improving processes and systems, an increase in quality will follow which in turn will lead to an improved attitude, a modified behavior, and eventually a classroom culture directed toward achieving quality.

Teamwork

Teams and teamwork are extremely important in producing a quality service or product. Effective teams generate positive energy and produce an output which is more than the sum of the individual member's contributions. With proper leadership, people will be willing to participate in meaningful activities that will help transform their organization from one of non-quality to one of high quality. This active involvement can also be applied to the classroom setting. While hierarchy is still needed in organizations in order to maintain order, most classroom learning can be accomplished across organizational boundaries. Real improvement comes from improving systems and processes that cross individual and departmental lines.

Management by Fact

Quality leaders emphasize the need for complete and comprehensive data prior to making major decisions. These data should be complete, accurate, and made freely available to everyone. When people know the facts, they can offer essential advice for solving problems. Moreover they can call attention to a serious flaw in a developing plan, thereby avoiding additional problems. Using the scientific method to make decisions based on data and facts has the distinct advantage of getting to the root of the problem rather than merely looking at the symptoms. Permanent solutions rather than quick fixes can be offered as a result.

Variation

Every process involving humans and/or machines displays variation which means that even if we do the same thing the same way every time, the results will vary. Since this is the case, no two products - components, services, reports, teaching effectiveness, or graduates - will ever be identical. In education, for example, we see wide variation in incoming students, in the teaching/learning process, and in the quality of the graduates. If variation becomes excessive, processes and systems become erratic and unpredictable. The result is normally mediocrity and poor quality. The goal, therefore, is to increase the uniformity of the process by getting everybody involved in studying processes and by identifying potential sources of variation.

Common-cause variation is inherent in a system resulting from many small sources of variation. When this type of variation is present the process is said to be in statistical control and should not be tampered with. When special-cause variation is present, that is, a large, sporadic variation unusual to the system, the process is said to be not in statistical control. In this case, the process should be examined and the special causes of variation removed.

Why Total Quality Fails

There is a growing body of literature that analyzes the successes and failures of total quality

management and offers a summary of the pitfalls and flaws of its practices in adopting organizations reporting minimal or no positive results. The analyses indicate that the problem is not with the quality concepts themselves but rather with the practices of these companies.

Total quality is a holistic approach to managing an organization. Choosing to use only this or that part of total quality is bound to fail. "TQ is a complete diet of which everyone in the organization partakes" (Fields, 1994, p 7). Tom Peters (1987, p 74) summarized the reasons for failures of many quality programs as: "They have system without passion, or passion without a system."

Feigenbaum (1991, pp 828-829), often considered as the father of TQ, has identified ten benchmarks which are keys to successful implementation of TQ in modern organizations. Organizations that have tried TQ but failed will likely find the cause of their failures in the following ten benchmarks (Fields, 1994, pp 7-8).

- *Quality is a company-wide process.... It is a systemic customer-connected process that must be totally and rigorously implemented throughout the company and integrated with suppliers.*
- *Quality is what the customer says it is.... If you want to find out about your quality, go ask your customer.*
- *Quality and cost are a sum, not a difference. They are partners, not adversaries, and the best way to make products and offer services quicker and cheaper is to make them better.*
- *Quality requires both individual and teamwork zealotry. Quality is everybody's job but it will also become nobody's job without a clear infrastructure that supports both the quality work of individuals as well as the quality teamwork among departments.*
- *Quality is a way of managing. Good management used to be thought of as getting the ideas out of the boss's head into the hands of the workers. Today we know better. Good management means personal leadership in empowering the quality knowledge, skills, and attitudes of everyone in the organization to recognize that making quality right makes everything else in the company right.*
- *Quality and innovation are mutually dependent. The key to successful new product launches is to make quality the key to a new product (or service) development from the beginning.... The customer can't seriously tell you his likes or dislikes until he sees or uses the product.*
- *Quality is an ethic. The pursuit of excellence, deep recognition that what you are doing is right, is the strongest human emotional motivator in any organization and it's the basic driver in true quality leadership. Quality programs based solely on charts and graphics are never enough.*
- *Quality requires continuous improvement. Quality is a constantly upward moving target. Continuous improvement is an in-line, integral component of a quality program not a separate activity, and is achieved only through*

help, participation, and involvement from all the men and women of the company and its suppliers.

- *Quality is the most cost-effective, least capital intensive route to productivity. Companies have blindsided their competition by changing their productivity concept from ... M-O-R-E to M-O-R-E-G-O-O-D.*
- *Quality is implemented with a total system connected with customers and suppliers. This is what makes quality leadership real in a company, the relentless application of the systematic methodology that makes it possible for a company to manage its quality rather than to just have it happen.*

There are two major sets of reasons why the implementation of total quality management in schools sometimes fails (Murgatroyd and Morgan, 1992, p 189). The first set is referred to as “start-up” problems while the other set is known as “post-launch” problems. Start-up problems are often due to lack of visible commitment by school leaders, poor planning, lack of good data to support total quality initiatives, and lack of appropriate skills to initiate and sustain these quality initiatives. Post-launch problems include the following: team mania - too many teams and not enough support; measurement mania - too many measurements leading nowhere; overzealous selling of outcomes with very little initial achievements; fixing problems without looking at processes; and losing momentum.

Quality Concepts in Higher Education

There are as many approaches to defining quality in education as there are in defining the quality of a manufactured product or delivered service (Rinehart, 1993, p 49). The differences in the approaches make it very difficult to develop a common approach to educational quality. Before an assessment of quality can be carried out in higher education, it is important that its essential nature is basically understood. Green (1994, p 12) asserted that it is not possible to have “a single substantive definition of quality.” Bonvillian and Dennis (1995, p 38) noted that after decades of debating the virtues of quality in higher education, there is still no commonly accepted standards. Although each person may have some understanding of what quality is, the concept is still difficult to explain. In many cases, quality has an elusive character and is often determined by how one believes his or her personal needs and expectations have been met. The following summarizes some of the different concepts that have been used to assess quality in higher education.

The Traditional Concept

Quality is traditionally associated with the provision of a product or service that is unique and outstanding and which bestows special status on the owner or user. Such high standards of quality can only be achieved at a great cost to the user. In higher education, the traditional concept of quality is often associated with most people’s perception of the world’s top-notch universities in terms of the “distinctive and special student experience that they provide, and in terms of the graduate and research output” (Green, 1994, p 13). However, if all institutions of higher learning are to be judged by the same criteria used to judge the world’s prestigious universities, most would be rated as of poor quality. This concept of quality is therefore not much of value in assessing quality in higher education as a whole.

Conformance to Specifications or Standards

According to this concept, a quality product or service is one that conforms to a specification or standard. The term “standard” is used as a “yardstick” or a basis for measuring a required characteristic of a product or service. Applied to higher education, this definition provides all institutions an opportunity to strive for quality as different standards can be set for different types of institutions.

This model has a number of drawbacks. It tells nothing of the criteria used to set the standards. A product or service which conforms to standards may still be perceived as having low quality if the standards are not in line with what the user considers as significant. The model is essentially static in that it implies that once a specification is set it does not need to be reconsidered. This is not however the case in the real world. As society changes, specifications or standards need to be revised to reflect new circumstances. The model also implies that standards are easily measurable and quantifiable. This may not be the case in higher education where the term “standard” may be defined in a different way. When used to mean “excellence or high standard” the definition becomes unclear. Green (1994, p 14) elaborates on this problem as follows:

A concern that standards are dropping may be taken to mean either that the level of achievement required to pass a course has been lowered, or that students are achieving a lower level of performance even though the standard (in the more neutral 'yardstick' sense of the term) remains the same.

It is therefore important that the term “standard” be defined and applied clearly when assessing quality in higher education.

Fitness for Purpose

This is the definition of quality adopted by most analysts and policy makers in higher education. According to this model, quality is gauged in terms of whether or not a product or service meets its stated purpose or purposes. This definition of quality has a number of advantages over the previous ones. First, it provides a means for determining the specification for a product or service. Second, it allows for reconsideration of the appropriateness of the specification over time. Third, it allows analysis of quality in higher education at various levels.

One drawback in using “fitness for purpose” as the definition of quality is the lack of consensus on what the purposes of higher education should be. Different interest groups may have different opinions on the issue. Another question is who should define the purposes of higher education. It is also possible for higher education to have multiple purposes, some of which may be conflicting with each other.

Effectiveness in Achieving Institutional Goals

This concept focuses on evaluating quality in education at the institutional level. An institution is said to have high quality if it “clearly states its mission (or purpose) and is efficient and effective in meeting the goals that it has set for itself” (Green, 1994, p 15). Each college or university determines its own definitions of quality and standards and establishes its own quality assurance system. An audit committee to check whether the institution is successfully achieving its stated aims and objectives then evaluates it. This model is broader than the “fitness for

purpose” definition and includes other areas such as effective management and resource usage efficiency in the evaluation of quality in higher education.

Meeting Customers’ Stated or Implied Needs

This definition of quality places high emphasis on identifying and meeting customers’ needs. The customers’ future needs are translated into measurable characteristics and then products or services are designed and delivered at a price the customer will pay. A number of difficulties arise from defining quality as meeting customers’ needs particularly in higher education. Questions remain as to who is the customer of higher education or who should define quality in higher education. Taking the student as the customer poses a number of difficulties. Although students’ needs can be easily identified and met, the quality of student experience goes beyond this. According to Green (1994, p 16), “the heart of the education service is the relationship between the lecturer and student in the teaching and learning process.” Lecturers and students are both parts of the production process and are both producers and customers depending on the circumstances. Consequently, the standards of quality are difficult to state and to maintain. Another criticism is that students or customers in general may not always be placed to determine what quality is or whether it is present.

Bergquist’s Four Criteria

William H. Bergquist (1995, pp 36-43) listed four sets of criteria by which quality could be defined and assessed. These criteria are described as follows:

1. *Input criteria.* These criteria focus on the nature and level of resources available to the institution like the characteristics of incoming students, credentials of faculty, size of library, structure and availability of physical facilities, and the amount of financial reserves. For many years, the input criteria have been the most commonly identified measures of quality (Bergquist, 1995, p 37). Many accrediting agencies have used input measures to measure quality like the quality of entering students, number of books in the library, quality of graduate degrees held by faculty, number of square feet of classroom space, student-faculty ratio, and others. Many people believe that if you put good things together, something good will come out of it. This concept of education is often associated with traditional high-status institutions.
2. *Output criteria.* These criteria stress the nature and extent of institutional products, characteristics of graduating students, success of alumni, research and scholarly publications, and public service. They build on the assumption that institutions of higher education are accountable to society for what they produce. In recent times, the reputation and quality of educational institutions are increasingly being determined on the basis of their demonstrated outcomes.
3. *Value-added criteria.* These criteria zero in on the differences that an institution has made in the growth of all of its members: intellectual, moral, social, vocational, physical, and spiritual. Considering these criteria, an institution would be judged by “the extent to which it is effective in developing the talents of its students from whatever level they are at when entering” (Bergquist, 1995, p 41).
4. *Process-oriented criteria.* These criteria include the level and manner of participation of all appropriate constituencies (or stakeholders) in the educational, administrative, and govern-

ance processes of the institution, including the defining and assessing of quality. Based on these criteria “it is not what we do or what we accomplish that makes for quality; rather it is the way in which we do what we do and how we decide what to do that differentiate a high-quality education” (Bergquist, 1995, p 42).

A Practical Definition of Quality for Higher Education

There is no single, all-encompassing definition of quality that meets the needs of all stakeholders in higher education. Different interest groups have different priorities and needs. Quality therefore should not be considered as a unitary concept but a multiple one. Based on this concept, a school, which may be considered a high-quality institution when evaluated according to one factor, may be a low-quality one when gauged by another. Green (1994, p 16) suggested that “the best that can be achieved is to define as clearly as possible the criteria that each stakeholder uses when judging quality, and for these competing views to be taken into account when assessments of quality are undertaken.” Bergquist (1995, p 43) proposed that a comprehensive and useful definition of quality in higher education must include all four sets of criteria described above: input, output, value-added, and process-oriented. These four sets of criteria must be considered equally important in developing a modern definition of quality for education. Following Bergquist, the author proposes, in this essay, a definition that takes into account all four sets of criteria:

Quality is the extent to which an institution successfully directs adequate and appropriate resources (input) to the accomplishment of its mission-related outcomes (output) and that its programs make a significant and positive difference in the lives of people associated with it (value-added) and that these programs are created, conducted, and modified in line with the mission and values of the institution (process).

Implementing Total Quality in the Classroom: A Model for Adventist Higher Education

The total quality model in this essay will utilize a two-pronged approach towards integrating faith and learning in the classroom. The first prong is geared towards empowering students to engage in continuous improvement for the betterment of the class. The second is geared towards engaging each student in a continuous improvement process of his/her own. Throughout the discussion there are references to both classroom practices and individual practices that are needed to establish a successful quality classroom. The approach towards managing quality in the classroom particularly within a Christian (Adventist) environment consists of the following vital elements.

Christian Leadership

Leadership (servant-leadership) is probably the most important ingredient in establishing quality in the classroom. The Christian teacher, as leader, assumes an expanded role from a one-directional style (from teacher to student) to one that fosters critical thinking and empowers students to bring about change in the traditional classroom. Teaching for critical thinking is accomplished by means of on-going dialogue, questioning, researching, evaluation, and other

activities that help to develop critical thinking and problem-solving skills. Quality Christian teachers will assist students to always search for ways to improve their world and beliefs, to be prepared for the complex and dynamic technological societies of the 21st century, and ultimately to be prepared for higher citizenship in the eternal kingdom.

Central to Christian leadership is the role of modeling, which involves attention, retention, behavior reproduction, and motivation. The quality Christian teacher reflects the character of the Master Teacher in all aspects of his/her life (White, 1952). He/She exercises self-discipline yet exudes a relaxed confidence while maintaining a keen interest in learning, questioning, and respecting his/her students and their opinions. The quality teacher assumes the new functions of a coach and a cheerleader. As coach he/she guides students and reinforces their learned processes such as goal setting, self-evaluation, self-reinforcement, self-motivation and critical thinking skills. As cheerleader, he/she provides students encouragement and rewards for the continuous improvement journey towards quality work where team play and interaction with other students are promoted. Students help other students grow and succeed by engaging in teaming activities and working collaboratively toward solving problems of increasing difficulty. Everyone in the classroom will be responsible for working towards personal success as well as the success of the group.

The quality Christian teacher provides students with the tools necessary to do their job within a non-coercive and non-adversarial environment. Genuine friendliness, cooperation, and the eagerness to assist others to reach their maximum potential pervade the classroom atmosphere. Students are not penalized for making or correcting mistakes; rather mistakes are seen as a natural path to growth and continuous improvement. The quality Christian teacher approaches the subject matter with a sense of humor, challenge, and creativity. Learning is both challenging and fun. Both teacher and students enjoy the activities together as they work towards a common purpose. According to Deming (1986), the purpose of work should be fun. There are few discipline problems in the classroom when everyone is having fun. The free flow of dialogue between teacher and students will encourage the latter to stretch the limits of their current knowledge. When students are not only empowered and shown respect but are also given the proper tools to do the job, they will want to do it well.

Last but not the least, the quality Christian teacher demonstrates spiritual, personal, and professional continuous improvement approach to life. This presupposes a constant pursuit of knowledge and the continuous cultivation of Christian virtues. Establishing a regular pattern of goal setting in their spiritual, personal, and professional lives makes the teacher a good role model for all students to be life-long learners. This means recognizing the importance of achieving balance in all aspects of the teacher's life.

The problems students and teachers bring to the classroom reflect society in general and as such the opportunities for resolution are greatly enhanced by utilizing a team approach. Students must be given ownership of the problems and actively engaged towards resolving them. It is thus important to establish trusting and collegial relationships with all students so that each will be willing to assist in resolving classroom problems. This atmosphere of caring will energize the classroom and everyone in it to advance towards quality.

Information and Analysis

Classroom quality cannot be achieved without collecting data. The management of systems and processes is based on fact, not intuition. Everyone in the classroom determines which systems and processes need improving and employs statistical methods to uncover the root cause of the problem. Sometimes the principal problem(s) may be very obvious and the root causes may be relatively easy to determine. In most cases, however, a major “system” that inhibits quality within a unit may not be readily apparent either to the teacher or to most of the students in the entire class. In this case, it may be necessary for the teacher and students to identify the major problem(s) by one or more of the quality tools. (Readers are advised to look up any standard text on quality management for a description and application of the different tools of quality.)

Data collection is the first step in determining the exact problem within the classroom. This is followed by a team approach to resolving it with the teacher acting in a leadership role to assist and empower students to take responsibility for continuous improvement. Before collecting data, however, the teacher may first need to do a few things. First, he/she assembles a group of students involved in the situation to assist in the data collection to determine root causes of the problem and to create an action plan. Then they decide which problem(s) need to be addressed. The problem or problems are then stated clearly and succinctly. Then they organize data into tables and charts for easy identification and understanding of the root causes of the problem. The group then agrees on the causes of the problem and develops an action plan to resolve it. The action plan is then implemented and the results monitored. This is the first phase of the plan-do-check-act (PDCA) cycle, which continues everyday all year.

Strategic Quality Planning

The first step in implementing total quality in the classroom is establishing a quality statement describing exactly what quality means to the class. Once such statement has been established, it provides the focus of attention for the teacher, students, administrators, and other stakeholders. A clearly defined statement about quality/excellence leads to a mission statement that can and should be kept literally and figuratively at the forefront of the classroom.

Strategic quality planning begins with a firm commitment from both teachers and students that they will no longer do “business as usual” in the classroom. The commitment to the total quality approach begins by including everyone in the transformation and by maintaining a trusting, open environment where students feel safe in expressing their views without fear of reprisal either from the teacher or fellow students. It is essential at this point that both teacher and students are acquainted with the total quality approach. Once everyone in the classroom makes the commitment to total quality, the next step is to establish class and personal goals. These goals must be directly related to the mission statement of the class. Goal setting provides a map to reach a certain destination. Each student is engaged in goal setting and tracks his/her progress towards achieving the goals. A specific time frame is set for achieving each goal. Everyone in the classroom maps out a strategy for achieving each and every goal using systematic diagrams or other suitable quality tools. Goals are assessed continuously remembering that the total quality approach is an on going, ever improving process as long as teaching and learning takes place. Students are encouraged to think about their future and imagine what they would like to accomplish. They are given training in goal setting and mapping and

are encouraged to set goals that will allow them to be individually challenged while recognizing individual differences.

Human Resource Utilization

The total quality approach suggests that educational institutions believe in their people, help them understand their roles and purposes in the organization, and give them what they need to be able to do their best work. This concept applies to administrators, teachers, staff, and students. Teachers who feel valued, understand the importance of their job, and have the freedom and tools needed to do them will be motivated and have a commitment to doing great work. Students who feel valued, understand the importance of learning and their role in it, and have the freedom and tools to learn will be motivated to excel.

An effective human resource utilization for the classroom will need to address the following areas: (a) a dedicated and committed teacher; (b) total involvement in the quality improvement efforts by teachers and students; (c) student education and training in the quality concepts; (d) recognition and measurement of exceptional performance both individually and as part of a team; and (e) morale and well-being of students.

To encourage classroom participation and involvement, the teacher can take the following steps to engage his/her students in a number of ways. First, institute a vigorous program of education and self-improvement. Education in the principles of total quality is critical to producing quality work. Second, remove barriers that rob them of their right to pride in workmanship. Recognize that everyone wants to do quality work. Provide challenges that would require them to stretch their limits. Otherwise, "When people feel no one cares about their work, pride in workmanship disappears and work becomes drudgery. No one is happy. No one seems to really care, and nothing of quality happens" (Byrnes, Cornesky, and Byrnes, 1994, p 123). Third, institute a vigorous program of self-improvement. Christian teachers should become role models for continuous self-improvement in their personal and professional lives. Fourth, improve constantly using the principles, methods, and tools of quality until all have achieved a degree of success and are doing quality work.

One important factor that can help foster pride in workmanship is being able to do meaningful work. Meaningful class assignments can increase greatly student motivation to complete the work and do a quality job. If the students can easily understand the connections between what they are asked to do in school and the "real world" they will be motivated if not eager to become active participants in school.

Another important feature of human resource utilization is team building. Team building is a concept that is just as important as process improvement. A team is a group of people who are goal-centered, interdependent, honest, open, supportive, and empowered (Lewis and Smith, 1994, p 191). The synergy developed within effective teams in terms of relationships, trust, and support can exceed the original expectations of the team. Certain conditions would be needed in order to maximize team involvement and effectiveness. The teacher must create an ideal environment, which fosters cohesive teams. Students must feel comfortable, confident, and motivated. The teacher must provide a supportive environment built on trust and understanding.

Quality Assurance of Products and Services

The purpose of process management is to ensure that all important processes in the classroom work together to maximize its effectiveness. Process management “is mostly about the prevention of errors” (Hart and Bogan, 1992, p 152) or the prevention of waste. Waste is the cost of non-conformance or “all the expenses involved in doing things wrong” (Byrnes *et al*, 1994, p 137). For the teacher, waste would include dropouts, individuals retained in a grade or year, students who fail to achieve mastery in any subject or class, etc. All processes and systems in the classroom that do not function optimally, including poor or inappropriate teaching methods and an inadequate disciplinary system contribute to waste. Doing things right the first time will keep costs down and increase customer satisfaction. Empower the students to focus on the classroom mission and goals and make changes in the systems and processes within the classroom so that students learn to do it right the first time. This presupposes that the teacher allows the students to critique all classroom systems and processes in a non-coercive, non-judgmental environment. The teacher recognizes that those directly involved in the activity are most qualified to suggest ways to improve the system.

As trust and sense of teamwork is developed within the classroom, students are allowed to evaluate each other’s work. The teacher allows the students to interact with each other, discuss the strengths and weaknesses of arguments and answers, and then provide them opportunities to work to strengthen the assignment. This allows each student to evaluate his/her own thinking, enhancing the knowledge base of each. Through such discussions, each student assists the other and the overall achievement of the group is raised.

The total quality approach suggests that the teacher cease dependence on inspection to achieve quality. In the traditional classroom, inspection is normally accomplished in two ways. The first line of inspection is accomplished by quizzes, unit tests, homework, etc. The second line of inspection is administered by standardized tests or teacher-constructed final exams. A compilation of both of these usually leads to a grade for the class and used as the basis for decisions regarding moving to the next grade level or taking the next course in a sequence. What happens in many classrooms is that there is no place for students to focus on the process of learning. Students who do poorly on quizzes, tests, homework, research papers, etc. are often left behind. They have not mastered the material but the unit is over and everyone must move on. Even when a majority of students do poorly in a class there is no attempt to consider when or where things went wrong and still worse there is no plan on how to eliminate root causes of the process and systems problems. Often, it is deemed to be the student’s problem and not the teacher’s nor the school’s. When inspection is carried out in this fashion, it is meaningless, does nothing to improve the student’s learning (product) and therefore is a waste of time. Students who do not understand the work usually know they don’t understand but the system breaks down when nothing is done to remedy the situation. It is at this point that students can be helpful to the continuous improvement process by becoming self-inspectors. When problems of poor quality arise, it is the responsibility of the student, with support and guidance from the quality teacher, to recognize problem areas and ways to improve. When they learn ways to resolve their own problems they feel stronger, have increased self-confidence, and become eager to do more.

The quality teacher must also help colleagues to understand the principles of total quality and share his/her experiences with them. He/She collaborates with faculty from other departments

to allow for a free flow of information as they adopt an inter-disciplinary approach towards collaborative learning. As the new millennium approaches there is greater need to educate with a global perspective, utilizing all possible cross-curricular approaches. Where possible, linkages with other schools within the system should also be encouraged.

Quality Results

Baseline data obtained on the classroom's current state of functioning is the starting point for the improvement process. To be effective, however, the teacher must also collect data after making some changes in the processes and systems within the classroom. Nothing can ever replace an efficient and effective on-going data collection process. Nevertheless, care should be exercised when effecting an evaluation system in the classroom. According to Deming (1986):

A common fallacy is the supposition that it is possible to rate people; to put them in rank order of performance for next year, based on performance last year. The performance of anybody is the result of a combination of many forces – the person himself, the people that he works with, the job, the materials that he works on, his equipment, his customer, his management, his supervision, environmental conditions (noise, confusion, poor food in the company's cafeteria). These forces will produce unbelievably large differences between people. In fact...apparent differences between people arise almost entirely from action of the system that they work in, not from the people themselves.

Initially, the teachers and students may work on one or two continuous improvement projects within the classroom. However, if everyone determines that there are many things that need fixing, an action team may be called for. However, the initial focus may involve only one or two problem areas since attempting to make many changes at once may make it difficult to determine what is happening. Once the action team has agreed on the root causes of the problem and implemented an action plan, the project is continued until the desired results are either demonstrated or denied by the data.

Another way of implementing a total quality classroom is by benchmarking it against best examples of similar classrooms (same grade level or same subject matter taught) throughout the state, region, nation, or the world. The teacher can find out about these classrooms by networking with teachers from other institutions and through involvement in professional organizations at the local, state, national or international level. Benchmarking the class with a "world-class" classroom will be the best indicator of any progress. It is possible to adopt an eclectic approach by taking the best out of several classrooms practices and apply them to the classroom. By benchmarking against the very best, the students will be able to realize their potential and face the challenges that come their way.

Customer Focus and Satisfaction

The ultimate goal of every quality initiative is meeting identified customer requirements. And it is only through a systematic, factual collection of data from those served that one can truly know whether or not the job is being done right. Customer satisfaction is the real measure of whether or not the mission and goals of the classroom are being met. "Satisfied customers

would tell three other people; dissatisfied customers would tell seven other people” (Hart and Bogan, 1992, p 188). A proactive stance on customer satisfaction provides everyone with the necessary and sufficient information to make changes within the classroom to achieve student achievement rates, foster trust and better relationships between teachers and students, and improve the students’ rate of learning.

The quality teacher does not rely on mere hunches or hearsay as evidence of classroom satisfaction. Instead he/she designs an instrument that measures specific criteria and uses such instrument to collect data from customers or stakeholders. Data are not used for the purpose of blaming or casting stones on anyone. Unless they are used responsibly to resolve problems, there is no valid reason for collecting them. In a quality-based classroom, complaints are eagerly sought for as golden opportunities to learn and improve the system. The more high-quality data the teacher has, the clearer his/her customer portrait becomes, the faster he/she will be able to adjust the classroom requirements to adapt to the changes in the marketplace, and the better he/she will be in anticipating his/her customer needs.

A teacher committed to world-class quality will work diligently with students and other customers to anticipate what will be required by them in the future and then work backwards to determine what experiences students will need in order to meet the goal (equivalent to quality functions deployment in manufacturing). Since the life of scientific knowledge is getting shorter there is more value in teaching students how and where to seek information by providing them many practical opportunities for using such resources so that they become life-long learners.

If students are entitled to a quality education but they drop out because they are not receiving such kind of education, the goal is not met. If they are being prepared for the future yet they do not possess job readiness skills or are unprepared for higher studies, they are defective and the classroom goal is not met. If students are supposed to be provided a safe learning environment, yet one is harmed by verbal or physical abuse from educators or fellow students, the goal is not met. If students are being prepared for the complex technological societies of the 21st century yet are not equipped for the school of the hereafter, then the ultimate goal of Christian education is not met.

Conditions for Establishing a Total Quality Culture in the Classroom

Before lasting change towards classroom quality can be realized the teacher must be trained in quality processes and systems and must make it clear that he/she is going to support the commitment to quality. Since applying the total quality approach requires an enormous deviation from the traditional supervisory techniques, the teacher should undergo a training program on the principles of total quality. He/She must consistently “walk the talk” and be committed to walk the total quality journey. The Christian teacher will exhibit that kind of behavior, which he/she wants his/her students to emulate. Of course he/she should continuously point his/her students to the Master Teacher – Jesus Christ.

Besides the education of teachers, critical to the success of the total quality approach is also the education of students. The reason for educating students is to inform them that their par-

ticipation is essential to improve the quality of classroom systems and practices. Once they understand the principles of total quality they will more likely commit to this approach.

Implementing the total quality approach in the classroom will also require the education, commitment, and participation of those who have a direct stake in the success of students. These stakeholders include parents, colleagues, administrators, employers, etc. It is hoped that these stakeholders will become true partners with teachers to assist students as they proceed along the quality path. Their involvement in continuous improvement projects by participating in task forces or quality circles represents a major deviation from the practices of traditional classrooms.

Another condition is the establishment of trust. When the students realize that the teacher really represents and respects their opinion, they will be empowered to take corrective action on poor processes and will feel free to express their true feelings about the tasks, processes, and systems that are out of control and need improvement. The teacher will get the students involved initially in processes that show respect and trust for their knowledge and judgment by means of participative management. Students who are empowered to do these will feel better about themselves, will have greater learning satisfaction and morale, and will strive towards improved productivity and quality. When they are rewarded and recognized for their efforts, they will have greater pride in workmanship which will result in additional increases in quality and learning. The end result will be a new classroom culture, one in which working becomes fun.

Conclusion

Combining the holistic principles (spiritual, mental, physical) of Christian education with a holistic approach (total quality) to teaching and learning enables the class to achieve true excellence. This paper sought to show that the principles of education espoused by the Seventh-day Adventist Church are compatible with the total quality philosophy as applied to education. The total quality model becomes very powerful when infused with spiritual values as exemplified in the lives of the Christian teacher and other members of the learning community. Samford University, a private Christian university in Birmingham, Alabama, which formally started its quality journey in January 1990, had this to say about their quest for quality and the total quality concepts:

Even more, they resonated with the Christian values that we at Samford hold. Focusing on the needs and interests of those served by one's work reflects the Golden Rule. The TQM (total quality management) concepts remind us of the values that we espouse but often do not practice in our work (Harris, 1993, p 18; parenthesis supplied by the author).

According to Byrnes *et al* (1994), every human being continuously strives to have five basic needs met. These needs are survival, love (respect), pride (in work and play), freedom (to pursue what one does and pursue that which one enjoys), and fun. Perhaps worship (belief in a supernatural being) should also be added to the list. When individual needs are not met within the confines of an institutional structure, they will eventually find a place where these needs

can be met. Those who are kept out of the “club” called school will find other organizations (e.g. cults, gangs, etc.) to which to belong.

In any successful system there is a place for trial and error. It is this that spawns continuous improvement projects. A successful classroom operates within a framework of an open, friendly atmosphere with no shaming or blaming so that the participants can learn to resolve their own problems. Viewing students’ mistakes as windows of opportunity for continuous improvement rather than disasters resulting from misjudgment or inability will help them become willing to continue taking the necessary risks to become self-confident, responsible citizens not only of this world but also of the world to come.

We need creative and innovative role models now more than ever before. The world is crying out for leaders whose goals are to build up, not to tear down; to nurture, not to exploit; to undergird and enhance, rather than to dominate. Jesus as a leader is the noblest of them all (Jones, 1994, p XV).

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