A Historical Investigation Of Education Quality Based On Kuhn's Theory Of Paradigm Shifts

Thomas Wright
Seton Hall University

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A Historical Investigation of Education Quality
Based on Kuhn's Theory of Paradigm Shifts

By
Thomas Wright

Committee:
Elaine Walker, Ph. D., Mentor
Daniel Gutmore, Ph. D.
Susan Paynter, Ed. D.

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ABSTRACT

Appreciating that it is impossible to achieve a quality public education without first understanding what education quality is, this study argues that public education is better described as a service rather than a product. Thus education quality is better understood using a service-based model of quality rather than the current production model, which provides the theoretical undergirding of No Child Left Behind (2001).
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CHAPTER 1

Problem Statement

Driven by a bipartisan commitment to improve the quality of public education, The No Child Left Behind Act of 2001 was signed into law on January 8, 2002. With its enactment, educators at all levels of the system were pressed to increase the quality of elementary and secondary education. Now, without exception, all children are expected to achieve at grade level in reading and math. Educators are being held accountable, and if schools fail to make adequate yearly progress towards this goal, there are prescribed consequences ranging from the parental option to transfer their child to another public school, to requiring school districts to provide supplemental instruction from a provider chosen by parents, to corrective actions such as curriculum change or staff replacement, or in the most egregious instances state takeover or third party management of schools.

Given the hundreds of billions of dollars that will be spent at the federal, state, and local levels to implement this law, The No Child Left Behind Act (2001) represents a monumental government effort to “ensure that all children have a fair, equal and significant opportunity to obtain a high-quality education” (Section 1001). Yet, despite its no nonsense emphasis on accountability, assessment, and measurable goals, nowhere in this legislation, or the accompanying regulations, is there an explanation as to what
education quality is.

Some might argue that this oversight is insignificant; that the quest for high quality is a common cause shared by all and that quality as it applies to education is widely understood as a production function in which input and process variables such as class size, teacher training, money, leadership qualities, school climate, time on task, and pedagogy are matched against student outcomes such as achievement test scores, dropout rates, graduation rates, future earnings, attendance, or transition to higher education. This means that the real challenge for educational leaders is to find the optimal combination of inputs that can produce a given level of output at minimum cost (Heshmati, 2002). As pleasing as this model might be for its straightforward and intuitively rational approach, it presents a number of significant problems.

First, by considering only building or district level variables as contributors to education quality, production models fail to account for broader systemic influences. This perspective of quality oversimplifies the complexity and interactive nature of public education as a system. It ignores the fact that policy decisions made at more distant state or federal levels of the system can have profound effects on the quality of education delivered across the system. By minimizing or totally ignoring the effects of broader systemic variables such as regulations, mandates, and funding formulas, the impact of decisions made by state and federal policy makers on education quality is not accounted for. This omission implicitly leads to three possible conclusions regarding education quality: (a) education quality does not exist in or apply to the more global levels of the American education system, (b) education quality does exist and is a factor at the state and federal levels of the system, but its impact and relevance at these levels is
insignificant; or (c) education quality does exist and is an important construct to consider at all levels of the system including at the state and federal levels, but current thinking regarding education quality does not capture its meaningfulness and influence at these levels.

In addition, recognizing that "A paradigm is not only an assumption about how things are; it is a commitment to their being that way" (Meadows, 1991, p. 3). By defining education quality as a production function, there is an implicit understanding that schools are indeed production facilities. Children enter as raw material, are exposed to a variety of education processes within a prescribed environment, and emerge as units of human capital that have obtained prespecified levels of knowledge in the designated academic disciplines.

Lastly, at a more fundamental level, there is a subtle but distinct difference between the concepts of "quality education" and "education quality." Statements about the existence or lack of quality education assume a common understanding about the distinct features of education quality, as opposed to medical quality, automotive quality, air quality, or building quality. Conceptually, education outcome measures, alone or in combination, do not define and are not synonymous with education quality. At best, outcome measures such as achievement test scores, graduation rates and future earnings are strongly correlated with education quality and provide some indication of the existence of education quality, but they do not equate to education quality.

Given that, "It is impossible to promote quality education without a clear concept of what it is" (Mok, Wilding & Chan, 1998, p. 12). Relying on the current production model has ramifications throughout the public education system. At the very least, it
increases the likelihood that fiscal and human resources will be wasted in false efforts, and ultimately it may mean that the goal of providing high quality public education to all children will not be achieved.

**Purpose of the Study**

The purpose of this study was to investigate the construct of education quality from a historical perspective and with this information develop a model of education quality that would be applicable throughout the public K-12 education system.

**Theoretical Framework**

Many quality researchers (Garvin, 1984; Kastner, 1996; Lezzone, 1997; Mayer, Mullens & Moore, 2000; Reeves & Bednar, 1994b) comment on its elusive nature and the high degree of difficulty in fully capturing its meaning. When considering education quality the challenge is magnified by the fact that the object to which the attribute, quality, is being applied is a societal institution and as such it is shaped by the same competing political, economic, and ideological forces that forge and mold the broader society in which it exists. Buffeted by these dynamic processes, education has changed over time. Just as life in 21st century America is different from colonial life in pre-revolutionary America, education both as an institution and a process has also undergone noteworthy change. Under these conditions, the problem of defining education quality is much like trying to hit a moving target, since what constituted education quality in one historic period is likely to differ from what it was understood to be in another period.

In the third edition of his seminal work The Structure of Scientific Revolutions, Kuhn (1996) challenged the long held belief that scientific development is linear by arguing that the development of a mature science is the result of “successive transitions from one paradigm to another via revolution” (p. 12). Kuhn based his theory on three elements: paradigm, normal science, and scientific revolution.

“A paradigm is an accepted model or pattern” (p. 23), a conceptual framework that imparts meaningfulness to phenomena – before there was a pendulum there were only swinging stones. Paradigms govern the perceptions, beliefs, and values of a group of practitioners. Consequently, individuals who share the same paradigm “see the same things when confronted with the same stimuli” (p. 192), are “committed to the same rules and standards of practice” (p. 11), and are bound by the same symbolic language.

Thus in a very real sense “… proponents of competing paradigms practice their trades in different worlds … and see different things when they look from the same point in the same direction” (p. 150).
Periods of normal science are marked by conventionality and tradition. It “is predicated on the assumption that ... a community knows what the world is like” (p. 5). During these periods paradigms are well formed, agreed upon and are generally unquestioned. Phenomena are assimilated and explained by existing conceptual frameworks or schemas as objects, and situations are grouped into similarity sets without asking “Similar with respect to what?” (p. 200).

According to Kuhn’s theory, these stable periods of community consensus that identify and define normal science are punctuated by paradigm shifts, which cause a community to see the world differently. The transition from old to new paradigm is not a cumulative, linear process “achieved by an articulation or extension of the old paradigm” (p. 84). It is not necessarily even a conscious effort. Rather, it is a crisis response to environmental changes that render an old paradigm inadequate. “The decision to reject one paradigm is always simultaneously the decision to accept another, and the judgment leading to that decision involves the comparison of both paradigms with nature and with each other” (p. 77). Kuhn described this process “in which an older paradigm is replaced in whole or in part by an incompatible new one” (p. 92) as revolution, and noted further:

... there will be a large but never complete overlap between the problems that can be solved by the old and by the new paradigms. But there will always be a decisive difference. When the transition is complete, the profession will have changed its view of the field, its methods, and its goals. (p. 84)

Despite this dramatic change of perception that accompanies these paradigm shifts, Kuhn observed that old and new paradigms share much of the same vocabulary, but they seldom use terms in the same way. “Within the new paradigm, old terms,
concepts, and experiments fall into new relationships one with the other” (p. 149).

During the history of the United States, there have been three widely accepted periods of revolutionary change. These three great revolutions were the American Revolution, the Industrial Revolution, and most recently, the Information Revolution. Congruent with Kuhn’s theory, it would follow that if significant change did occur in education, which altered the public’s understanding of education quality, it would most likely coincide with these revolutions. Therefore, these three revolutions will form the guideposts to delineate and frame historical periods for investigation.

Organization

This study consists of six chapters. Following this introduction, Chapter 2 is a literature review of quality looking at the construct from both historical and theoretical perspectives with special attention paid to the distinction between product quality and service quality. Guided by the quality literature, Chapter 3 explores and discusses education in colonial America. Chapter 4 investigates the social, political, and ideological factors that shaped education in the United States after the American Revolution. Chapter 5 explores the changes in education that accompanied the Industrial Revolution and technological expansion in America. Chapter 6 discusses the spread of information technology and globalization and its effects on the American education system. This chapter then concludes by presenting a model of education quality that is research-based and applicable at all levels of the education system.
Limitations

The primary challenge of defining education quality is its illusive nature. As a complex, multidimensional, abstract construct there is always the danger that different people will understand it to mean something different and identify different factors as essential. This problem is compounded by the fact that the term, quality, has not always had the same dominant place in education discourse as it does today. Consequently, in an effort to trace its meaning through history, both implicit and explicit references to education quality need to be considered. This reliance on implicit references is often based on secondary resources and increases the risk of researcher bias.

To compensate for this danger, this study will identify and discuss conflicting perceptions of school and schooling, not with the intent of establishing winners or losers, or lobbying for a particular ideological position, but rather to ferret out those areas of common agreement. Since it is at these points of agreement where any paradigm is most likely to be defined by community consensus.

At a theoretical level, another limitation of this study is its reliance on Kuhn’s theory of paradigm shifts. Despite its wide acceptance across multiple disciplines as a basis for analyzing change, there are those who have criticized Kuhn’s work (Eckberg & Hill, 1979; Hollinger, 1973; Stephens, 1973). While this study uses Kuhn’s theory as structural undergirding to help block time and events into meaningful segments, and to identify specific elements (perceptions, values, goals and methods) for analysis across these time frames, it does not depend on or assume that paradigm shifts actually occurred as a result of any or all of the revolutionary periods under consideration. Rather, this study relies on Kuhn’s theory to help answer the question: If the construct, education
quality, has changed over time, when did it occur, and what factors contributed to these changes?

Moreover, while this study uses a historical analysis of education to gain a clearer understanding of the meaning of education quality over time, it does not present an all-inclusive overview of the history of education in America. Decisions about what information to include were largely guided by the degree of relevance a particular event, person, movement, or ideology had to the system as a whole, or the degree to which it helped highlight specific characteristics of the American education system. Again, to reduce the effect of researcher bias, these decisions were largely guided by the work of well-regarded education historians (McClellan & Reese, 1988; Parkerson & Parkerson, 2001; Spring, 2001; Tozer, Violas & Senese, 1993).

Lastly, it should be noted that this analysis focuses on only dominant education patterns within the United States. Therefore, its conclusions and observations may not be generalizable to other nations or even to subgroups within the United States.
CHAPTER 2

Quality Literature Review

This chapter presents a review of the literature concerning quality. It is divided into three main sections. Section I uses Garvin's (1988) widely accepted stage model (Evans & Dean, 2002; Reeves & Bednar, 1994b; Yong & Wilkinson, 2002) to discuss the history of manufacturing-based quality. Section II presents the most widely used definitions of quality and the strengths and weaknesses of each. The last section presents with a discussion of how service quality differs from product quality and why definitions used to describe product quality are inadequate to define service quality. This section then concludes with a detailed overview of service quality literature.

Section I: A Historical Overview of Quality

Inspection. Garvin (1988) traced the development of today’s quality movement through four periods which he refers to as quality eras beginning with inspection, through quality control, and quality assurance to Total Quality Management (TQM).

There is common agreement that measurement and inspection have been important aspects of production throughout history. Evans and Dean (2002) stated that Egyptian hieroglyphics dating to 1450 B.C. depicted measurement and inspection as part
of pyramid building, while Yong and Wilkinson (2002) noted that the Chinese were also using measuring tools to check parts as early as the 21st century B.C. During the Middle Ages quality continued to be controlled by production specifications and inspections along with long periods of apprenticeship training during which quality was overseen by master craftsmen. Feigenbaum (as cited in Yong & Wilkinson, 2002, p. 106) described this period as a time of "operator quality control" since craftspeople had complete control over the entire manufacturing process.

However, once designers began making products that depended on interchangeable parts, more formal methods of quality control became necessary. Evans & Dean (2002) illustrated this point by telling how Thomas Jefferson, after seeing a musket manufactured by a French gunsmith, Honore leBlanc, that used interchangeable parts, introduced the idea to America, and in 1798 awarded Eli Whitney a contract to provide the U.S. Government with 10,000 muskets in two years. However, despite his best efforts to train workers to follow specifications that were then measured and compared, Whitey underestimated the effects of variation in production and ultimately needed more than ten years to fulfill the contract.

Citing Chandler (1977), Yong & Wilkerson (2002) stated that the first example of a formal inspection system in the United States occurred at the Springfield Armory during the 1830s. Under this system, each worker placed a private mark on each piece he made, and then after the assistant master armorer had re-inspected and approved the piece, he put his mark next to the worker's. Finally, a supervisor compiled monthly reports that tracked passed and rejected parts. Thus, ensuring quality by closely monitoring each worker's performance.
Despite these earlier examples, before the Industrial Revolution and the development of factories and widespread implementation of mass production, Yong and Wilkinson (2002) noted that most goods were produced in small quantities: "parts were matched to one another by hand, and after-the-fact inspections to ensure quality were usually conducted informally, if at all" (p. 106). However, as mass production's popularity and factories increased in size, Taylor's scientific management theory became more widespread. This meant that the planning and management functions of production were separated from product execution. Specialization of labor became the primary way to organize work and thus quality became a specialized responsibility of full-time inspection departments, which with the advent of World War I and the need for reliable armaments, became an increasingly important part of the production process.

Quality Control. The inspection era of quality when individual craftspeople fully assembled products and personally monitored quality ended with the Industrial Revolution and the increased use of specialized labor in mass production. With the Industrial Revolution, inspection for defects became an essential part of the production process and quality increasingly became the responsibility of specialized departments.

During this early history of quality control, scientists and researchers from the Bell Laboratories were innovators. In 1924, W.A. Shewhart developed a statistical chart to monitor and control for product variability. By using statistical methods, Shewhart was able to identify acceptable levels of variation from those that were suggestive of problems. Meanwhile, Dodge and Romig were developing sampling techniques so that decisions could be made about the entire lot based on limited number of production items. Combined, these developments marked the beginning of statistical quality control.
(SQC) (Yong & Wilkinson, 2002)

However, Yong and Wilkinson (2002) stated that the value of SQC was not widely recognized until the start of World War II, when again large quantities of materials were necessary. It was under these conditions, that the government developed sampling tables based on the concept of acceptable quality levels (AQLs). The AQL identifies the maximum percentage of defects that a supplier can maintain over time and still be considered as satisfactory. Using this approach, inspections were conducted only when defect rates routinely exceeded AQL. This made the overall inspection process less time consuming and costly and thus satisfying both manufacturers and the government.

Quality Assurance. Following World War II, during the late 1940s and early 1950s, there was a shortage of consumer goods, and since it was still widely believed that increasing quality also increased costs, quality management was relegated to specialists who focused their attention on controlling for defects while upper level managers concentrated their efforts on increasing production.

Juran was among the first to challenge the belief that quality increased costs. In his book, *Quality Control Handbook*, he encouraged companies to measure costs of quality (COQ), which he described in terms of avoidable and unavoidable costs.

Where unavoidable costs were costs associated with prevention activities such as inspection, sampling and other quality control activities, while avoidable costs referred to the costs associated with defect and production failures such as costs linked with scrap, repair, rework and complaints handling. ...Through Juran’s work, managers were shown that expenditures on prevention were justified if they were lower than the cost of production failure. (Yong & Wilkinson, 2002, p. 109)
Feigenbaum, believing that quality was the responsibility of everyone within an organization, not just a specialized department, expanded on Juran's ideas and introduced the concept of total quality control (TQC). Feigenbaum described TQC as:

...an effective system for integrating the quality development, quality maintenance and quality improvement efforts of the various groups in an organization so as to enable production and service at the most economical levels which allow for full customer satisfaction. (as cited in Yong & Wilkinson, 2002, p. 109)

The quality assurance era of quality management, was marked by an increased awareness of the importance of prevention to quality and the need for an overarching quality philosophy to guide production functions. This system depended not only on the tools and techniques of SQC, but also required new management style and thinking, which emphasized teamwork to find and eliminate the root causes of problems. (Dale, Boaden, Lascelles, 1994)

**Total Quality Management.** Meanwhile, following World War II, Japan was struggling to reinvigorate its decimated economy. To aid in this effort, teams of US experts were sent to help the Japanese build new industrial strategies. Before 1950 much of Japanese industry had not been formally introduced to SCQ. However in that year, Dr. Deming conducted an eight-day lecture series in which he introduced upper level managers and engineers to the methods and philosophy of SCQ. Later, in the summer of 1954, Juran presented a similar lecture series that focused on the role of management on quality (Yong & Wilkinson, 2002). Whereas Deming concentrated on SCQ, Juran emphasized that
... there has been some over-emphasis of the importance of the statistical tools, as though they alone are sufficient to solve our quality problems. Such over-emphasis is a mistake. The statistical tools are sometimes necessary, and often useful. But they are never sufficient. (as cited in Yong & Wilkinson, 2002)

He further stated that it was management's responsibility for policy-making, choice of quality design, quality planning for the organization, and setting up measurement and review systems for quality. Juran's lectures differed from Deming's in that he emphasized the need for quality control to have the support of top and middle management. Ishikawa (1990) described the introduction of Juran's approach to quality management as "the beginning of a gradual transition from statistical quality control to total quality control ... and company-wide quality control" (cited in Yong & Wilkinson, 2002, p. 112).

In Japan the practice of company-wide or total quality control differed from Feigenbaum's concept of TQC, which was the norm in the United States, and where quality was the exclusive responsibility of quality control specialists. In the Japanese model of TQC everyone in the company was expected to study, practice and participate in quality control. Moreover, the Japanese model broke down organizational boundaries as both internal and external customers were recognized as important contributors to company-wide total quality (Yong & Wilkinson, 2002).

By the 1970s Japan's economic recovery posed a major threat to American producers, but still many upper level managers resisted the thought that quality was providing a major competitive advantage. Instead they attributed Japan's increasing competitive advantage to such things as low wages, cheap capital, government support,
and currency manipulations (Cole 1998).

However, in 1980 after an NBC broadcast, a special report entitled "If Japan Can
... Why Can't We?" in which Deming's contribution to Japanese quality was presented, quality circles became a corporate rage. They were seen as the management tool that would restore America's competitive advantage by increasing direct participation and fostering pride in quality. However, the results achieved by quality circles were largely disappointing, and as Griffin (1988) notes they mostly produced short-term improvements in attitude that evaporated as the novelty wore off. By the mid 1980s it was argued that the voluntary nature of quality circles sent the wrong message about the importance of quality. In the new business environment marked by globalization and international competition "if employees wanted job security and good conditions, then the price to be paid was the acceptance of responsibility for continuous improvement" (Yong & Wilkinson, 2002, p. 115).

In their review of the TQM literature, Hackman and Wageman (as cited in Bolman & Deal, 1997) found that while its proponents including Deming, Juran, Crosby, and Ishikawa differed on specifics, all emphasized the importance of worker participation and teaming. Furthermore these researchers found that TQM is driven by four key assumptions: high quality is actually cheaper than low quality, people want to do good work, quality problems are cross functional, and top management is ultimately responsible for quality.

Commenting on the transformational aspects of TQM, Senge (1999) stated:
The roots of the quality movement lie in assumptions about people, organizations, and management that have one unifying theme: to make continual learning a way
of organizational life, especially improving the performance of the organization as a total system. This can only be achieved by breaking with the traditional authoritarian, command-and-control hierarchy – where the top thinks and the local acts – and by merging thinking and acting at all levels. (p. 34)

This is consistent with Hogg and Hogg's (1993) observation that quality programs in a sense turn traditional organizational pyramids upside-down since decisions are ultimately based on the customer's wants.

Section II: Defining Quality

While quality researchers largely agreed that it requires an integrated organization-wide approach of continuous improvement, there is not the same conformity of thought when it comes to defining precisely what quality is. This is important because "quality is first of all a cultural value," (Sciarelli, 2002) or as Lemaitre (2002) observed, "Quality is essentially relative, ... Definitions of quality are never neutral, or innocent. They are about balances of power" (p. 34). Vidovich (2001) expanded on this notion by noting that implicit in discourses on quality there are persistent tensions between "assessment of process and outcomes dimensions; between satisfying internal and external stakeholders; and between qualitative and quantitative measures of quality" (p. 251). Robert Pirsig (1974) in Zen and the Art of Motorcycle Maintenance presented the alternative view that quality is connected to caring, and that caring and quality are internal and external aspects of the same thing.

Wright (1997) emphasized the elusive nature of quality when he pointed out that Deming never defined quality. "When asked, he would respond 'it's all about
improvement and innovation” (p. 313). Evans and Dean (2002) made a similar point when citing a study which asked managers from eighty-six firms in the Eastern United States to define quality, and several dozen different definitions were given including the following: perfection; consistency; eliminating waste; compliance with policies and procedures; providing a good, usable product; doing it right the first time; delighting or pleasing customers; and, total customer service and satisfaction (p. 102).

Acknowledging the challenge that defining quality presents, researchers (Evans & Dean, 2002; Garvin 1988; Reeves and Bednar, 1994; Yong and Wilkinson, 2002) recognized four widely used constructions of quality: quality as excellence, quality as value, quality as conformance to specifications, and quality as meeting or exceeding customer expectations.

Quality as Excellence. Some (Evans & Dean, 2002; Garvin, 1988) referred to the quality as excellence perspective as the transcendent definition of quality, while others (Yong & Wilkinson, 2002, p. 102) referred to it as a “you’ll know it when you see it” definition of quality. In this sense, quality is something that cannot be defined; it is an "unanalyzable property we learn to recognize only through experience" (Garvin, 1988, p. 41). Pirsig (1974) saw it as an “innate excellence,” a property that is timeless and enduring; whereas, Tuchman (1980 cited in Yong & Wilkinson, 2002) described quality as an “investment of the best skill and effort possible to produce the finest and most admirable results” (p. 39).

While this definition of quality may be useful as part of a marketing campaign, researchers (Evans & Dean, 2002; Garvin, 1988; Reeves & Bednar, 1994b; Yong & Wilkinson, 2002) agreed because of a lack of specificity, it offered little practical benefit
to an organization’s intent on continuous improvement.

**Quality as Value.** Value-based definitions of quality described quality in terms of performance and price. According to this view, a quality product is one that is as useful as competing products and sold at a lower price, or one that offers greater or more satisfaction at a comparable price (Evans & Dean, 2002). Expanding on this definition, Feigenbaum (1983, cited in Yong & Wilkinson, 2002) stated that:

> Quality does not have the popular meaning of “best” in any absolute sense. It means “best for certain customer conditions”. These conditions are (a) the actual use and (b) the selling price of the product. Product quality cannot be thought of apart from product cost. (p. 1)

This implied that quality combines both internal efficiency and external effectiveness.

Defining quality as value allows for cross-industry analysis about consumer’s decisions among multiple alternatives and substitutes (Yong and Wilkinson, 2002), and provides “a more accurate indication of how products or services are perceived by consumers and how purchases are made” (Reeves & Bednar, 1994a, p. 429). Despite these advantages, Yong and Wilkinson (2002) criticized quality-as-value definitions for being difficult to apply in practice, since two related but distinct concepts, worth and excellence, are being combined. Garvin (1988) referred to the concept of quality-as-value as “affordable excellence,” and agrees with Yong and Wilkinson (2002) noting that quality-as-value lacks well-defined parameters and tends to be subjective. Therefore, like quality-as-excellence definitions, quality-as-value definitions often lack consistent practical usefulness.

**Quality as Conformance to Specifications.** Reeves and Bednar (1994b) state that
the most commonly used definition of quality during the 20th century has been quality-as-conformance to specification. The research noted further that this view of quality first became dominant in the late 1800s and early 1900s because of the need for interchangeable parts in mass production processes. Since if parts did not conform to specification they would not be interchangeable, and finished goods could not be produced in large numbers. This is the definition of quality that guided Shewhart’s thinking when he argued that the prevailing view of quality-as-excellence was too indefinite for practical purposes, and that while subjective factors were important, performance could only be measured using an objective and quantifiable definition of quality (Reeves & Bednar, 1994b; Yong & Wilkinson, 2002). This implies that once design specifications or standards have been established by the producer, any deviation results in a lowering of quality.

The primary benefit of using a quality-as-conformance to specifications definition is its quantifiability. As Reeves and Bednar (1994b) state:

Measuring quality using a conformance to specifications definition is relatively straightforward and easy. An organization can monitor progress in achieving its quality goals by measuring how well it is conforming to the established specifications. Likewise, researchers can use objective measures to assess the impact of differing levels of quality on organization performance, both across companies and industries over time. (p. 4)

Reeves and Bednar (1994b) also noted that when standards are established that can be met with little variation, efficiency often increases and costs are lowered. These same authors and others (Evans & Dean, 2002; Garvin, 1988; Yong & Wilkinson, 2002).
however, have observed that this definition of quality tends to be internally focused and that organizations which rely on it run the risk of paying “little attention to the link in customers’ minds, between quality and product characteristics other than conformance” (Garvin, 1988, p. 45). Yong and Wilkinson also cautioned that

Such an outlook on quality is focused on only one objective: cost reduction for the organization. The emphasis of this definition is, however, misleading, because it focuses on the producer’s specification of quality and yet if what the producer delivers is not what the user or customer wants it is irrelevant even if it is produced in a quality manner. (p. 103)

These authors further argued that

While conforming to specifications may be useful in setting where standards and specifications requirements can be easily set, leading to consistency in operations, it is not so easily applicable outside the industrial sector, where customers’ needs cannot be easily translated to specifications, or in sectors where the markets (and customers’ needs) are continuously changing. In such environments, the customers’ final evaluation of quality go beyond the expected specifications… (p. 103)

*Quality as Meeting or Exceeding Customer Expectations.* While the quality-as-conformance to specifications was the dominant definition of quality during much of the 20th century, as thinking about quality matured and TQM thinking became wider spread, the emphasis of quality shifted from the producer to the consumer. Thus quality became redefined as meeting or exceeding customer expectations. This is currently the most widely used definition of quality, and “most of the original ‘gurus’ (such as Crosby,
Feigenbaum, Juran and Deming) described quality as meeting the requirements of the customer" (Yong & Wilkinson, 2002, p. 104). At its most fundamental, this means that quality is whatever the customer says it is.

In their discussion of the strengths and weaknesses inherent in this definition of quality, Reeves and Bednar (1994b) pointed out that this definition of quality acknowledges the fact that in the market place the customer is the ultimate mediator of quality, and that while customers can state how well an organization’s output meets their expectations, they often cannot describe how well the same output conforms to specifications. In addition, defining quality-as-meeting or exceeding customer expectations allows researchers and managers to consider the impact of subjective factors such as courtesy, helpfulness, and appearance on the customers’ assessment of quality. Furthermore, because this definition is externally focused, firms that use this definition of quality are unlikely to miss major changes in the marketplace, and if they can consistently satisfy customer expectations, they will have a competitive advantage.

Garvin (1988) also observed that different firms can use different attributes and weights to judge customer expectations, thus enabling different firms in the same industry to compete on different dimensions of quality. Therefore, "Wal-Mart may meet customer expectations as well as or better than Nordstrom, even though Wal-Mart focuses on delivering low price and speedy check-outs while Nordstrom focuses on attentive service and responds to the unique demands of each customer” (Reeves & Bednar, 1994b, p.5).

Despite these benefits of the quality-as-meeting or exceeding customer expectations definition, Reeves and Bednar (1994b) state that it presents noteworthy
challenges for researchers and managers including the fact that they must account for the
fact that different customers place weight different attributes differently, and that
aggregating widely varying individual preferences meaningfully is problematic. In
addition, since customers often do not know what their expectations are, especially for
infrequently used products, determining and measuring customer expectations is difficult.
Furthermore, "Because customers have idiosyncratic reactions to different experiences,
predicting when product/service attributes will meet expectations and when they will fall
short is complex" (p.5).

While the quality-as-meeting or exceeding customer expectation is now the
prevailing definition of quality, during the 1980s, as the developed economies like that of
the United States increasingly shifted from manufacturing to service based economies,
quality researchers (Bowen & Schneider, 1988; Gronroos, 1982; Rust & Oliver 1994;
Zeithaml, Parasuraman & Berry, 1990) realizing that products and services had
significantly different characteristics, further refined this definition specifically for the
service sector.

Among the differences noted by these and other authors (Evans & Dean, 2002;
Reeves & Bednar, 1994b) were the facts that: (1) Services are basically intangible. They
are sets of actions and experiences. (2) Services are heterogeneous and can vary widely
from provider to provider within the same organization, or from consumer to consumer.
(3) Services are often produced and consumed simultaneously. (4) Customers often play
an integral part in the delivery of the service. This is especially true with the delivery of
professional services such as those provided by lawyers, financial advisors, doctors,
psychologists, and accountants. Thus, applying the quality-as-meeting or exceeding
customer expectation definition to services presents added challenges to those noted in the previous section.

To fully appreciate the current models of service quality and to present the thinking that shaped their development, this section begins with a discussion of the customer satisfaction literature which formed theoretical foundation for later service quality models.

*Customer Satisfaction.* Satisfaction is both an evaluative and an emotion-based response (Oliver, 1997) that reflects the degree to which a product or service encounter evokes positive feelings or provides positive utility (Rust & Oliver, 1994). It is based on a customer's evaluations of service quality, product quality and price (Parasuraman, A., Zeithaml, V. A., & Berry, L. L. 1994). It is transaction specific and requires that an individual purchase or use a good or service. On occasions when customers may have repeated interactions with a firm or organization, cumulative satisfaction exists as an aggregate measure. (Bittner & Hubbert 1994; Brady, M. K., Cronin, J. & Brand, R. R. 2002; Cronin & Taylor, 1992)

Oliver's (1980) disconfirmation of expectancy theory is commonly used as the basis for understanding customer satisfaction. Oliver observed that customers form expectations prior to the purchase of a product or service, and that these expectations then form a standard or benchmark against which the customer evaluates their perceptions of the actual product or service. Customer expectations are confirmed when their perceptions of the good or service exactly match their expectations. Disconfirmation, on the other hand, occurs whenever expectations and perceptions do not match and there is a discrepancy. This discrepancy can be either positive or negative.
When customer perceptions exceed their expectations, positive disconfirmation occurs, and customer satisfaction is likely to follow. In contrast, negative disconfirmation occurs when the customer's perceptions of the product or service does not meet their expectations. When negative disconfirmation occurs, dissatisfaction is the likely result.

![Disconfirmation Model](image)

Figure 1. Traditional Disconfirmation Model

Additionally, in situations where limited resources are involved, customers must make value decisions. Rust and Oliver (1994) described value in terms of utility, saying it is equal to the utility of perceived quality minus the disutility of price. They also noted that the relationship of price and quality to utility is likely to be nonlinear and to vary among individuals. Under these conditions price, whether monetary or non-monetary, becomes a critical variable as it relates to customer satisfaction (Hallowell, 1996; Parasuraman et al., 1994; Zeithaml, 1988).
Service Quality. Service quality is an attitude or global judgment about the superiority of a service (Robinson, 1999). It is a summative, cognitive, and emotional reaction or an overall impression of an organization and its service. (Bitner & Hubbert 1994; Brady et al., 2002; Oliver, 1981 Fall; Rust & Oliver, 1994; Zeithaml, 1988) Unlike satisfaction, an individual does not have to directly experience the service of a firm to form judgments of its service quality. (Oliver, 1993; Rust & Oliver, 1994) Service quality is a higher order, more abstract construct than satisfaction (Bitner & Hubbert 1994; Brady et al., 2002) that is best defined and evaluated from the customer’s perspective. However, because of its abstract nature, customers often have difficulty stating their expectations and detailing the reasons for their evaluations (Takeuchin & Quelch, 1983), particularly with professional services (Rogerson, 1983).

Early researchers (Berry et al., 1985; Gronroos, 1982, 1984; Lehtinen & Lehtinen, 1982) agreed that service quality is a multi-dimensional construct composed of two broad elements. Gronroos termed these elements functional and technical components of service quality, while Lehtinen & Lehtinen (1982) referred to them as physical and
interactive, and Berry et al. (1985) called these two dimensions of service quality process and outcome.

The technical, physical or outcome dimension of quality refers to what was received as a technical solution to the problem as a result of the service production and delivery process, whereas the functional dimension depends on the process of service delivery and is concerned with how the service was delivered. These two dimensions are often referred to as the “what” and “how” of service quality. (Gronroos, 1993)

Technical aspects of quality such as product knowledge (Mersha & Adlakha, 1992) and staff competence are essential to service quality. However, technical quality alone is not sufficient for high service quality (Gronroos, 1984). In some instances functional quality, based on the interactions between staff and customer, are more important than the technical aspects of quality. When technical quality is sufficient, than functional quality is likely to be the more important of the two (Gronroos, 1984). Others (Oberoi & Hales, 1990) have found that functional attributes are the main contributors to service quality, while Saleh and Ryan’s (1991) research suggested that the quality of functional service can offset technical service quality problems. Moreover, Mersha & Adlakha (1992) found that a willingness to correct errors and in staff attentiveness in service delivery were important contributors to perceptions of service quality. In contrast to this dichotomous view of service quality, Blanchard & Galloway (1994) argued that the technical and functional elements of service quality are so interwoven, and the boundaries between the two dimensions are so difficult to define that it would be more reasonable to consider service quality a unitary construct. In defense of the more traditional multi-dimensional view of service quality, Sweeney, Soutar & Johnson (1997)
argued that the relationship between the two dimensions is unequal and that each dimension has a specific influence on service quality, customer satisfaction and inevitably customer behavior. They found that functional service quality directly influences customer perceptions of technical service quality in that perceptions of the manner in which the service is delivered affects customer’s perceptions of the technical service offered. If customers believe that a salesperson is interested in them and their problems, then the product knowledge offered is believed to be genuine.

At this level of analysis, the research literature suggested that service quality is a dichotomous construct with functional quality having both a direct and indirect, or latent, influence on perceptions of overall quality, while technical quality has only a direct influence.

![Diagram of Service Quality Technical and Functional Elements]

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**SERVQUAL Model and Instrument.** On an operational level, the SERVQUAL instrument dominated research in service quality (DeRuyter, Bloemer & Peeters, 1997). This instrument was based on a series of studies conducted by Parasuraman, Zeithaml & Berry (1985) and Parasuraman, A., Zeithaml, V. A., & Berry L. L. (1988) designed to
identify and measure the key elements of service quality. These researchers used Oliver's disconfirmation of expectancy model as a basis for their gap model of service quality. In the gap model, Oliver's disconfirmation construct becomes perceived service quality, which likewise is defined as the difference between customer expectations and perceptions.

In their initial exploratory study using this model, Parasuraman et al. (1985) identified, by focus group interviews, ten dimensions that customers use to evaluate service quality: tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the customer. These ten dimensions were later (Parasuraman et al., 1988) combined and reduced to five:

1. Tangibles: The degree to which physical facilities, equipment and appearance of personnel are adequate.

2. Reliability: The degree to which a promised service is performed dependably and accurately.

3. Responsiveness: The degree to which service providers are willing to help customers and provide prompt service.

4. Assurance: The extent to which service providers are knowledgeable, courteous, and able to inspire trust and confidence.

5. Empathy: The extent to which customers are given caring, individualized attention.

Included in these were both process/functional and outcome/technical aspects of service quality. However, the model does not specify how (DeRuyter, et al., 1997).
Figure 4. SERVQUAL Model

(Because the functional and technical aspects of each dimension are implied rather than specified, they are represented by dotted boxes)
Based on the above model, The SERVQUAL instrument operationalizes service quality as the arithmetic difference between customer expectations and perceptions across twenty-two matched items, which are rated using a seven-point Likert scale. These scores are then reduced to five factors, corresponding to the five dimensions of service quality. High levels of service quality were assumed to have occurred when the gap or difference between customer expectations and actual perceptions of the service encounter are large and positive.

Criticisms of SERQUAL. At the conceptual level, criticisms of SERVQUAL have centered on the use of the gap model and the meaningfulness of customer expectations as a measure. While it may be intuitively pleasing to reduce an individual’s perceptions of quality to a comparison of prior expectations to perceptions of the actual experience, expressing this interaction as an arithmetic difference is an oversimplification that presents a significant problem.

Clow, Kurtz and Ozment (1998) have observed that while customer expectations can be measured and are stable over time, even when an individual has not had direct dealings with an organization, they also found that after a customer makes a purchase or choice they will modify their expectations to support their overall opinion of their experience.

This finding is consistent with Festinger’s theory of cognitive dissonance, which proposes that after an individual makes a choice there occurs a period of evaluation which results in some degree of psychological discomfort. To reduce the psychological tension caused by this dissonance, individuals will modify their prior expectations of service encounters to ensure there is sufficient basis to support their overall opinion of
their experience. (Clow et al., 1998) Customers who had a negative experience tend to shift their expectations higher than their perceptions of the actual experience, while those who had positive experiences tended to shift their expectations downward so that they were lower than their evaluation of the service experience. "Therefore, any method of measuring service quality that obtains expectation scores after the service encounter will be inherently biased" (p. 71).

Others (Lee, Lee, & Yoo, 2000; Oliver, 1981, Fall) have found that prior expectations affect perceptions of quality. These researchers have found that consumers tend to evaluate the quality of a product/service more favorably when their initial expectations were high. This response pattern highlights a flaw in the use of a gap model to describe and measure quality. According to this model, the gap between expectations and perceptions that indicates the level of quality, is likely to be greatest when customers have low prior expectations. However, perceptions of the actual service encounter are likely to be higher when their initial expectations were higher, even though the gap between expectations and perceptions may be small.

The first theoretical justification for discarding the expectations part of SERVQUAL came from Cronin and Taylor (1992) who argued that if service quality is "similar to an attitude" as indicated by Parasuraman, Berry and Zeithaml (1985), and Parasuraman, Zeithaml and Berry (1988), then its operationalization should represent an attitude-based conceptualization – perceptions of performance. They proposed that customer expectations are reflected in their perceptions and that the more they feel that their expectations have been met, the higher their perceptions of service quality. Therefore, the measure of perceptions alone is a more acceptable measure of service quality.
(Goodale, Koerner & Roney, 1997). Other researchers (Babakus & Boller, 1992; Brady, Joseph & Brand, 2002; Parasuraman et al., 1994) have supported this conclusion.

Parasuraman’s et al. Response to Criticism. Parasuraman et al. (1994) acknowledged that Cronin & Taylor’s performance only measure (SERVPERF) has greater predictive power than their gap model. However, they insisted that the difference is small and that past research (Bolton & Drew, 1991; Zeithaml, Berry & Parasuraman, 1991) provided strong support conceptually and empirically for defining service quality as the discrepancy between expectations and perceptions. They argued that the expectations-perception comparison of the gap model has greater practical benefit since managers are more interested in diagnosing service shortfalls than in accurately measuring service quality. Parasuraman et al., 1994 also noted that the SERVQUAL instrument included a separate performance measure.

Comparing Customer Satisfaction and Service Quality. Both service quality and customer satisfaction have been defined in terms of meeting or exceeding customer expectations. However, the two constructs are distinct (Bitner & Hubbert, 1994; Brady et al., 2002; Cronin & Taylor, 1992, Patterson & Johnson, 1993; Robinson, 1999).

Satisfaction is an emotional response (Oliver, 1997) of the individual that purchased or used a good or service based on their evaluation of service quality, product quality and price (Parasuraman et al., 1994). In contrast, service quality is an attitude or global judgment about the superiority of an organization and its service (Bitner Hubbert, 1994; Brady et al., 2002, Oliver, 1981; Robinson, 1999; Rust & Oliver, 1994; Zeithaml, 1988). Unlike satisfaction, individuals do not have to directly experience the service of
an organization to form judgments of its service quality (Oliver, 1993; Rust & Oliver, 1994).

Contrasting Standards of Expectations. While both satisfaction and service quality literature used expectations and perceptions of performance as key variables, the standards of expectation differed with each (De Ruyter et al., 1997; Rust & Oliver, 1994; Spreng & MacKoy, 1996; Zeithaml et al., 1990). When forming judgments about satisfaction, customers base their evaluations on predictive expectations, or what they expect will happen. Whereas when forming judgments about service quality the standard for expectations is an ideal of what should happen.

Some (Bitner, 1990; Oliver, 1993; Spreng & Mackoy, 1996; Zeithaml, Berry & Parasuraman, 1993) argued that the use of different standards for evaluation ultimately defines and differentiates service quality and customer satisfaction. This feature also explains why an individual might be satisfied with low quality if the performance is better than their predicted expectations.

Causal Order. Within the literature, there was disagreement about the causal order of service quality and customer satisfaction. Some (Bitner 1990; Bitner & Hubbert, 1994; Bolton & Drew, 1991; Parasuraman et al., 1985; Parasuraman et al., 1988) argued that satisfaction is an antecedent to service quality, and that each service encounter contributes to the customer’s perception of overall service quality, and that their reaction to a firm is based on the cumulative effects of discrete interactions. While others (Brady et al., 2002; Cronin & Taylor, 1992; De Ruyter, 1997; Lee et al., 2000), argue service quality is an antecedent to satisfaction since customer expectations of what will occur are based on global impression or the idealized notion of what should occur.
Mediating these two views, Rust and Oliver (1994) agreed with the dominant position that service quality is an antecedent to customer satisfaction, but they also observed that over repeated exposures, satisfaction influences perceptions of service quality.
CHAPTER 3

Education in Colonial America

In this and the following two chapters, it is argued that the function of education has been dynamic rather than static, and that the schools in colonial America were intended to serve a different purpose than the schools of today. Using Kuhn's theory of paradigm shifts as a theoretical grounding, it is argued in the next three chapters that just as the American and Industrial revolutions contributed to monumental shifts in social perceptions and priorities, these revolutions also contributed to dramatic shifts in the fundamental purpose of education as a social institution, thus making education a distinctly dynamic institution. Unlike other organizations and service providers such as hospitals, banks, insurance companies, lawyers, and restaurants whose core function has remained largely unchanged over hundreds of years, the purpose of education has changed over time. So that while bankers have lent money, and doctors have administered to people's health, and restaurants have served food since antiquity, the primary function of education has been fluid and dynamic, changing over time.

This characteristic of education, not only makes it distinct from most other organizations or service providers, but also has a profound effect on the challenge of defining education quality, since as the function, or intent, of education has changed over
time so to have the component factors or indicators of education quality. This helps to explain why as elusive and complex as the concept of quality is in general, defining education quality is even more problematic.

To explore how the function of education has changed over time, this chapter serves as a baseline and proposes to answer the question: Prior to the American Revolution, what was the function of education in America? Appreciating that the European settlers who colonized North America brought with them a rich cultural tradition that included beliefs about education and schooling this chapter begins with an overview of 17th century European schooling in Section I. Section II then traces the Americanization of this European model of schooling across the New England, Middle Atlantic and Southern colonies; and finally, Section III concludes with a discussion of the construct of education quality.

Section I: 17th Century European Education

By the time the first permanent settlements were being established in America, the Renaissance had transformed Europe from a region of feudal economies that were politically and socially controlled by the church to a region governed largely by civil authorities and containing urbanized commercial centers. Caught in this transformation, medieval monastic education was reshaped. No longer were Christian revelations and dogmas the ultimate standard by which all thought was compared. With the Renaissance, human rationality took precedent over church authority. Logic and reason became the standard of truth and thus classic Greek and Roman thought, rather than being subordinate to Christianity, was valued for its intrinsic worth (Grendler, 1990).
The spread of this ideological shift from medieval scholasticism to the humanism of the Renaissance was facilitated by technology. After the invention of the printing press and the publication of Guttenberg’s 42 line Bible in 1456, there was an ongoing competition between the old technology of scribe-produced manuscripts and machine-published books. According to Boorstin (1983) this competition lasted for the next hundred years until there came a time when books were owned not only by the elite, but also by a schooled merchant class. Boorstin argued that this triumph of the printed book had the dual effects of democratizing and provincializing knowledge.

With the printing press, books were no longer written only in Latin, and as vernacular editions appeared throughout Europe in English, French, Italian, Dutch, Spanish and German, information became available to new audiences. Knowledge became increasingly public. However, coinciding with this democratization of knowledge, Boorstin (1983) contended that as Latin, the international language of the learned community, was “displaced by national and regional languages, knowledge tended to become national and regional” (p. 517) and thus provincialized.

Grendler (1990) tempered Boorstin’s assertion concerning the democratization of knowledge during the Renaissance by highlighting the deep social divisions that existed in Europe during this period. He also noted that free public education was not widely available, and even in those towns with free municipal schools, all boys were not allowed to attend. Schooling was reserved for sons of the most prosperous and politically powerful and was closely linked to occupation and social status. For those who did attend school, there were two distinctly different and physically separate educational tracks known as Latin and vernacular schools.
Vernacular schools trained the sons of merchants and craftsmen. The curriculum was practical and based on the needs and culture of the merchant class. While some vernacular schools taught elementary Latin, the emphasis was on mathematics and vernacular reading. Latin schools were reserved for the sons of the privileged who might be expected to assume leadership positions. These schools were based on the Renaissance ideal of the educated public leader, who became just and wise through the study of Scriptures and the selected works of Greek and Roman writers. The Latin school curriculum consisted of grammar, rhetoric, poetry, history, and moral philosophy, and all students were expected to integrate into their daily lives the moral and civic lessons they had memorized (Grendler, 1990).

No matter what the curriculum, both vernacular and Latin schools were governed either as independent or endowed schools. Independent schools consisted of a schoolmaster teaching fee-paying students either as a private tutor or to a community. Under this system, a schoolmaster was not subject to institutional authority. “He was responsible only to the parents who paid him” (Grendler, 1990, p. 775). In contrast, endowed schools were sponsored by a benefactor, whether a wealthy individual, town, or church, who asserted control over the schoolmaster.

Overtime, as the church’s medieval monopoly on learning lessened, so too did its influence, until on October, 31, 1517 when Martin Luther published his 95 Theses, thus beginning what was to become the Reformation. Rooted in the fundamental belief that the true source of religious authority was the Bible and not the Church, the Reformation emphasized the role of individual responsibility in the attainment of salvation, thereby making the reading and understanding of the Bible an essential part of the redemptive
process (Boorstin, 1983; Hiner, 1988).

As the power of the Church was challenged and new Protestant sects emerged, religion became an expression of the people rather than the presiding clergy who were now elected. Sects vied for dominance. Religious intolerance was widespread and for the first time, noted Grendler (1990), civil and religious authorities paid attention to schools. Since, "Control of the schools guaranteed orthodoxy; it won the next generation to the true faith, whichever it was. And if the political and religious authority did not control the schools, they feared that their religious enemies would" (p. 779). Grendler also argued that this desire to control schools led to the first licensing of teachers in the 1550s by Mary Tudor in England, as well as a papal bull by Pius IV in 1564 directing all teachers to profess their Catholic faith.

Section II: Colonial American Education

Specifically, how this European tradition of education was reshaped in colonial America varied across regions depending upon a host of contextual variables that included political, social, economic, geographic, and ideological factors. In New England, the first colonists were Puritans -- religious dissenters and separatists who saw themselves as chosen by God to create a model community that would serve as an example to the rest of the world. They came as a community not as individuals, and in 1629 when a royal charter allowed the Massachusetts Bay Company to transfer itself wholly to the American side of the ocean, they became a self-governing colony (Johnson, 1997).

Believing that God had made a covenant with them, the early Massachusetts
setters used this model throughout their community and based the governance of their
civil and religious institutions on a contractual model that was based on the notions of
free will and voluntary agreement. For the early Puritans, obedience could not be
coerced. It required voluntary consent. It was this insistence on voluntary compliance in
both civil and religious matters that Breen & Foster (1973) argued made education and
schooling an essential element in the Puritan mission of creating an exemplary society.
Sommerville (1983), while agreeing with Breen's observation, insisted that at a more
fundamental level the survival of the Puritan movement depended on the successful
indoctrination of the next generation.

As religious dissenters dedicated to the establishment of a model community,
Hiner (1988) stated that the early Puritans had two clear and explicit educational goals:
first, and most importantly, to create a regenerative man, "a person whose being had been
transformed by the infusion of God's mercy and grace" (p. 5). And secondly, to educate
a civil man, a person "who kept the commandments, respected authority, obeyed
community laws and accepted his responsibilities as a parent, provider, husband and
master" (p. 6). To these ends, Hiner noted that "by the 1640s, the New England churches
had developed a 'test' that was used to determine if a man had in fact received the
covenant of grace" (p. 5). For these congregations, the regenerative process began when
an individual became aware of their own "depravity and certain damnation." This insight
then enflamed an internal struggle between believing in the promise of God's salvation
and doubting the authenticity of this promise. Finally, only by accepting God's mercy
and grace would the individual emerge from this conflict as a regenerate soul. This
conversion process, Hiner argued, "epitomizes the ultimate purpose of the Puritan
education system and served as its rigorous final examination” (p. 5).

Socially, first generation Puritan settlements were homogeneous. They came as families and often as whole congregations. “Strangers were frequently ‘warned off’ when they failed to meet community standards” (Johnson, 1997, p. 54). Breen & Foster (1973) also noted that “The concern for social purity was so great that colonial authorities sometimes asked newcomers to present evidence of good character before allowing them to settle” (p. 12).

Within these religiously committed homogeneous communities, everyone was expected to support the education of children. However, because education was seen as part of the redemptive process, the father had primary responsibility within the family to oversee the education of his children. It was his duty to see that his children were prepared for religious instruction. A father was expected to bring his children to public worship and later, at home, question them about the minister’s sermon, and “if the Puritan father had a relative equal teaching partner, it was not his wife, but his minister” (Hiner, 1988, p. 12).

The religious exclusivity that shaped these first Puritan settlements lasted for about ten years after which,

Gradually, Anglican, Baptists and even Quakers were allowed to settle. Wealth gaps widened in the second and third generations, rows and splits weakened church authority. The social atmosphere became more secular and mercantile and the Puritan merged with the Yankee, “a race whose typical member is eternally torn between a passion for righteousness and a desire to get on in the world.” (Johnson, 1997, p. 54)
Between 1634 and 1637 dissenters known as Antinomians disrupted the Massachusetts colony as they renounced the orthodox Puritan belief that good work and exemplary behavior were necessary outward signs of regenerativeness in favor of the belief that only inner faith mattered for salvation. This erosion of Puritan orthodoxy and homogeneity contributed to increasing social turmoil that eventually resulted in the first colonial laws regarding education – The Massachusetts Law of 1642 (Johnson, 1997).

In his discussion of this law, Spring (2001) observed that it “... opens with a general complaint about the neglect of parents and masters in the training of children in learning and labor and calls for the appointment of individuals to investigate the ability of children “to read and understand the principles of religion and the capital laws of this country” (p. 12). Beyond the explicit religious and political intents identified by Spring, Monaghan (1988) argued that there was an implicit economic motive to the statute. To support this contention, she pointed to provisions within the law which allowed for the removal of children who are not being trained in a skill, Cremin likewise insisted that the law was part of “a vigorous legislative effort to increase the political and economic self-sufficiency of the colony” (1982, p. 125).

Five years later, in 1647, a second law, known as the “Old Deluder Satan Law” was passed, which further standardized civic obligations in the area of education. Under this law, towns of at least fifty households were required to appoint a teacher to provide instruction in reading and writing, while towns of one hundred or more households were required to establish grammar schools (Spring 2001).

The provisions contained in the Massachusetts Law of 1642 and the Old Deluder Satan Law were soon adopted in other new England and Middle Atlantic colonies with
Connecticut passing similar statutes in 1650, New Haven (then a separate colony) in 1655, New York in 1665, Plymouth in 1671, and Pennsylvania in 1683 (Johnson, 1997). These actions, asserted Monaghan (1988), showed that “From the earliest days of settlement and throughout the colonial period, the colonists expected that all children ought to be able to read, no matter how low their station or how poor their circumstances” (p. 30). To accomplish this end, there were three standard instructional texts in colonial America: hornbook, primer, and speller.

As a child’s first reading text, a hornbook consisted of a single page tacked to a small wooden paddle and protected by a transparent protective horn cover. On its single page, the hornbook contained the alphabet, a few lines of syllabrium (ab, eb, ib, ob, ub) and the Lord’s Prayer (Monaghan, 1988).

After mastering the hornbook, students moved on to a primer, which was first published in the colonies in 1669, and was a common item in any village store. The best known of the many primers that were available in colonial America, was the New England Primer, which was first published in 1690 and was published continuously for the next hundred and forty years, or until 1830. While, primers commonly included syllabrium, a word list and a catechism, the New England Primer also included an alphabetic list of religious and moral maxims that students were required to memorize. This was followed by the Lord’s Prayer, the Creed, the Ten Commandments, a section called “Duty of Children toward their Parents,” and a list of the books from the Old and New Testaments. These sections were then followed by a list of numbers, which were introduced by the statement, “The numeral letters and figures, which serve for the ready finding of any Chapter, Psalm and Verse in the Bible.” (cited in Spring, 2001) before
concluding with a Catechism.

Since reading instruction relied on the alphabetic method, a technique that was entirely oral and required the beginning reader to spell out syllables and words divided into syllables, spelling books were the key to reading instruction. Using this method, reading progress was judged solely by a student’s oral spelling; and because it was assumed that any passage that was read was also understood, reading comprehension was ignored (Monaghan, 1988).

Monaghan (1988) noted that during the entire colonial period, the method and content of reading instruction was largely agreed upon, the curriculum was highly standardized, and it was widely believed that the only qualification necessary to be a reading teacher was the ability to read. Reading instruction was a family responsibility, and just as religious instruction was the father’s responsibility, reading instruction was the mother’s. However, when families did not have the skill or time to teach reading, children attended reading and writing schools known as petty schools. The most common form of petty school was the dame school. Dame schools were taught by women who took neighborhood children into their houses for a few hours a day of reading instruction. Initially, dame schools were privately funded either by endowment or tuition. However, as Monaghan’s research showed, by 1670, as parents had increasing difficulty fulfilling their legal responsibilities to educate their children, towns became increasingly involved in hiring school dames who were paid a few pennies per student per week. This was substantially less than what was paid to males who taught in grammar and writing schools, which were attended by boys between the ages of 7 and 14 after they had achieved basic literacy.
Grammar schools were equivalent to, and modeled after, the Latin schools of Europe, and represented an effort to perpetuate old world standards in the American colonies. Spring (2001) described the typical grammar school as providing:

A seven-year education with major emphasis on the study of Latin and minor emphasis on Greek and Hebrew. The schools were divided into eight forms and concentrated on the study of Latin grammar, Latin conversation and composition, and Latin readings. In addition, students studied Greek and Hebrew grammar and Greek Literature. ...As a rule, mornings were devoted to grammar, afternoons to literature, Fridays to review and testing of memorization, Saturdays to themes and Sundays to catechizing and other religious exercises. (p. 16)

Like the Latin school of Europe, the stated purpose of a grammar school education was to educate future leaders as virtuous and wise human beings. However, Spring (2001), citing Cremin's (1970) study American Education: The Colonial Experience 1607-1783, argued that in a larger social context, grammar schools confirmed and conferred status within the community and were a vehicle for upward mobility.

These researchers agreed that for the elite, a grammar school education confirmed their rightful place as future leaders in need of appropriate training, while for those from a more middle-class background, grammar school training blurred class distinctions and ultimately conferred elite status. Despite the social power of grammar school education as a vehicle for upward mobility, and legal mandates requiring their establishment, Teaford's (1988) research showed that by 1670 town support for grammar schools in New England was on the decline and that by the American Revolution, the grammar school tradition had collapsed, as writing schools became increasingly popular.
In the colonial period, writing referred to penmanship – a male-dominated craft essential to the rapidly expanding mercantile economy, which depended on a “well-educated commercial class with a mastery of figures and a legible hand” (Teaford, 1988, p. 32). For the young man aspiring to a career in business being able to write legibly was a fundamental skill, and writing school provided this training.

Like grammar schools, writing schools were for students who had achieved basic reading skills either through home instruction or a petty school. The preferred instructional method was by rote memory and repetition with students reproducing “copy” prepared by the writing master – a craftsman who had achieved his status through an apprenticeship. Beginning by first copying individual letters, writing school students next repeatedly copied pithy moral sentences before advancing to duplicating poems and texts reproduced for them by the writing master from a copy book (Teaford, 1988).

The first community supported writing school, The Writing School in Queen Street, was established in Boston in 1682. (Teaford 1988) This was followed in 1700 by the North Writing School and in 1720 by the South Writing School. As the number of writing schools expanded to meet the demands of New England’s fledgling mercantile economy for clerks and bookkeepers, there was also a similar rise in the number of private schools offering other vocational courses. Citing as an example, Teaford (1988) noted that in 1709 a Bostonian, Owen Harris, advertised instruction in Geometry, Trigonometry, Plain and Sphaerical Surveying, Dialling, Guaging, Navigation, Astronomy, the Projection of the Sphaere, and the use of Mathematical Instruments.

In 17th century New England, an individual’s ability to attend a writing school or obtain vocational training was affected by gender, class and geography. According to
Monaghan (1988) "then as now, low social class combined with poverty often correlated with illiteracy in reading as well as writing." And that "high social standing, when combined with urban setting was able to erase the restrictions on female access to writing instruction. In cities, the daughters of the higher ranks learned to write because their parents sent them off for private instruction" (p. 34).

While some might interpret this increase in writing and private vocational schools as a fundamental shift in educational goals, from regenerativity and virtuous leadership to an emphasis on pragmatic commercial training, Johnson (1997), argued to the contrary. Johnson stated that it was always a fundamental cultural assumption of the Puritans that "the Godly flourished and that if a man persistently failed to prosper – if financial catastrophe suddenly struck him – it was because he did not, for some reason, enjoy God’s favor" (p. 44).

When this notion of financial prosperity as an outward sign of God’s grace and approval, is combined with Spring (2001) and Cremin’s (1970) assertions that colonial education conferred status and provided a means of upward mobility, commercial training can be understood as a pragmatic, market driven response to the Puritan quest for regenerativity.

With regard to the structure and content of colonial education, Monaghan (1988) stated that New England’s approach to education was closely replicated in all but the southern colonies. Parkerson and Parkerson (2001) disputed this claim, noting important cultural distinctions between the New England and Middle Atlantic colonies, which contributed to differences in the governance of education. Whereas the New England colonies tended to be culturally homogeneous, thereby enabling civil authorities to
assume greater control over the regulation and financing of education, in the Middle Atlantic colonies there was a rich diversity of competing ethnic and religious groups, which ultimately affected the governance of education.

To demonstrate the extent of cultural diversity present within this region, Parkerson and Parkerson (2001) explained that during the 1600s, in or near what is now New York City, there were at least eighteen different languages spoken. Just prior to the Revolutionary War there were at least thirty different German religious groups in Lancaster County, Pennsylvania, the most culturally heterogeneous of all the colonies. These authors argued further that competing religious and ethnic interests resulted in churches rather than towns representing the communities' interests in education. This reliance on churches lead to a highly fragmented education system that Parkerson and Parkerson (2001) described as

...a wide range of educational experiences, each of which centered on religious and moral education. The quality of these schools varied dramatically from community to community, and they often appeared and then disappeared as a result of individual and community interest. In some towns they thrived for generations. Other communities provided virtually no formal primary schooling for children, preferring that families provide them with a basic education of reading and writing. (p. 29)

Shaped by distinctly different historical events, education in the southern colonies contrasted sharply with that of their northern neighbors in either the Middle Atlantic or New England colonies. Whereas the Massachusetts Bay Company had been formed by religious dissenters, politically and religiously the southern colonies had a strong cultural
link to England (Kirkpatrick, 1926). They were in royal favor and over two thirds of all southern churches were Anglican (Parkerson & Parkerson, 2001).

As might be expected, given the strong cultural link to England, the southern colonies adopted an approach to education that closely replicated the English system, which researchers (Parkerson & Parkerson, 2001, Spring, 2001) described as highly stratified, aristocratic and laissez-faire. One early writer (Tyler, 1897) captured the philosophical and legal underpinnings of the southern approach to education when he argued that since parental affection could be relied on to provide for the educational needs of their children, only the poor or orphaned needed to be provided for by public laws. This author observed that from 1642 to 1643 a general law was passed in Virginia that included a provision for the educating of orphans “in the Christian religion and the rudiments of learning” by binding “the orphan out to some manual trade til one and twenty.” This law was enforced and supervised by an Orphan’s Court that was held once a year. Later, in 1646, these provisions were expanded to empower the county justices to remove children from the homes of “such parents whose poverty extends not to give them good breeding.”

Thus, in the southern colonies, education was seen as a parental responsibility in all but the most extreme cases. Schooling was privately funded and provided mainly by tutors. For the wealthy planter class, tutors were often recruited from England and Scotland, and the curriculum that was taught closely followed the renaissance model of classical education.

In the frontier environment, that characterized much of the southern colonies during this period, the vast majority of children had few opportunities for formal
schooling other than the "occasional community school or private instruction from family or friends," (Parkerson & Parkerson, 2001, p. 30) and what free schools there were were endowed rather than town or church supported.

Section III: Education Quality in Colonial America

While the preceding review failed to show that the construct of education quality was an explicit part of the education discourse in colonial America, given the hardships that were associated with colonial life, it is reasonable to believe that the dominant understanding of quality in general was value-based. In addition, the degree of excellence of any good or service was weighed against its monetary cost or the level of sacrifice necessary to secure it. Since a value-based understanding of quality likely prevailed across colonial life, it is reasonable to believe that a similar conceptualization applied to education quality. Thus, it is likely that any assessment of education quality was based on a comparison of the outcome of education and the cost/sacrifice necessary to secure that outcome.

A historical review of the period strongly supports the observation that the desired outcome of education was religious in nature. This observation is supported by the fact that in regions where competing religious interests were of greatest concern, schooling was the most widespread. Thus, in the New England and Middle Atlantic colonies, where concern regarding competing religious sects was the greatest, schooling was of greater community and legislative concern than in the Southern colonies where Anglicanism comfortably dominated.

Moreover, recognizing that American colonial education was rooted in a
European cultural experience, this argument is further supported by the fact that a similar association between education and religion existed in Western Europe, where it was not until after the Reformation when religious sects began vying for dominance that civil and religious authorities began paying attention to schools. As Grendler (1990) explained, "Control of the schools guaranteed orthodoxy; it won the next generation to the true faith, whichever it was. And if the political and religious authority did not control the schools, they feared that their religious enemies would" (p. 779).

While it might be argued that social, economic and political influences played an important role in shaping education in colonial America, financial prosperity and social standing were widely believed to be outward signs of God's approval and grace (Johnson, 1997), and thus were secondary to religious priorities. A review of the instructional materials of the period, which typically included verses from the Bible, the Ten Commandments and catechism, highlighted the close association between education and religion. Even in grammar schools, where the stated purpose was to educate future leaders as virtuous and wise human beings, one day a week was set aside for catechizing and other religious exercises (Spring, 2001).

Under these conditions, the construct of education quality in colonial America most likely reflected a value judgment based on a comparison of the degree to which an educational experience advanced interests, beliefs and values of the sponsoring religious sect weighted against the monetary and non-monetary cost of securing that outcome.
CHAPTER 4

Post-revolutionary American Education

This chapter presents an historic overview of public schooling in the United States following the American Revolution, and is guided by two fundamental questions. Did the function of education in America change noticeably as a result of the American Revolution as Kuhn’s theory of paradigm shifts would suggest? Secondly, if the function of education did change, how was it redefined?

To explore the broad range of social, political, and ideological factors that might provide insight to these questions, this chapter is divided into four sections. Section I provides background information regarding the major influences of the period. Section II presents a discussion of the dominant post-revolutionary views regarding the role of education in the newly formed republic. Section III details the development of the common school movement, which ultimately provided the model for today’s public school system. This chapter then concludes with Section IV, a discussion of how education quality was likely conceptualized during this time period.

Section I: America After the Revolution

Following the American Revolution, restlessness was the defining characteristic
of The United States (Johnson, 1997). As participants in the "great experiment," there was a pervasive sense of optimism across the newly formed nation, and according to historian Robert Nye, "If a majority of 18th century Americans agreed on one idea, it was probably the perfectibility of man and the prospect of his future progress" (cited in Spring, 2001, p. 23). People were on the move, and this mobility acted as an economic dynamic which fueled and confirmed the belief that anyone could have the best if they were willing to work hard enough (Johnson, 1997).

At the start of the 19th century the total free population of the United States was less than 6 million people. There were only 6 cities with ten thousand or more people, approximately 94% of the population was employed in agriculture (Tozer, Violas & Senese, 1993) and America was achieving birth rates, in terms of children reaching adulthood, never before seen in history (Johnson, 1997). Moreover, throughout the first half of this century, periodic inflows of European immigrants swelled the population. The end of the Napoleonic Wars in 1815 brought an influx of 100,000 immigrants between 1815 and 1820. A series of potato crop failures that occurred between 1821 and 1845 eventually resulted in the immigration of one million Irish Catholics to the United States. Meanwhile, the number of continental Europeans immigrating to America steadily increased "from 6,000 to 10,000 a year in the early 1820s, to 15,000 in 1826, and 30,000 in 1828. In 1832 it passed the 50,000-a-year mark..." Johnson (1997, p. 289). In mid-century, with the discovery of gold in California, immigration rates increased once again. By 1860, out of a total United States population of 27 million, 4 million were foreign born. Thus, during the first half of the 19th century the dominant colonial Protestant Anglo Saxon culture was under repeated assault from Catholic and continental
European influences (Johnson 1997).

Johnson (1997) explained the attraction of America by noting that, in comparison to Europe, it was paradise.

Its army was one-fiftieth the size of Prussia's. The expense of government per capita was 10 percent of that in Britain, itself a country with a small state by Continental standards. There were no tithes because there was no state church. Nor were there poor rates – there were virtually no poor... Not only were American wage-rates high, but you kept your earnings to spend on your family. Then there were other blessings. No conscription. No political police. No censorship. No legalized class distinctions. Most employers ate at the same table as their hands. No one (except slaves) called anyone Master. ... But the most powerful inducement was cheap land. (pp. 289, 290)

The above factors combined with a highly mobile society led to a rapid westward expansion of the newly formed republic, the speed of which can be illustrated by the rapid establishment of state governments. Kentucky, Tennessee, and Ohio became the states west of the Appalachians in 1803, followed by Louisiana in 1812, Indiana in 1816, Mississippi in 1817, Illinois in 1818, Alabama in 1819, Missouri in 1821, Arkansas in 1836 and Michigan in 1837.

During this time of rapid population growth, geographic expansion, and increasing social mobility, there was also a significant deterioration of apprenticeship as a stabilizing social institution. Based on his research of the origins of the public education system in America, Katz (1988) found that in the cities of the period “apprenticeship was decaying as an effective social institution.” And that “this deterioration... not only
preceded industrialization... but also (occurred) before the creation of any network of institutions to contain and manage young people” (p. 106). Therefore, “Young people who would have once worked as apprentices or servants now had literally almost nothing to do, for in a pre-industrial urban economy, contrary to what is often believed, there existed little work for young men” (p. 106).

While these demographic and social factors combined to energize and excite the newly formed nation, they also threatened to destabilize social institutions that had existed prior to the revolution. Under these conditions, cultural continuity was maintained by three widely shared beliefs, which provided the ideological underpinnings that shaped America’s social values and worldview.

First among these beliefs was a belief in the primacy of Protestantism as the one true worldview. Historians and education writers alike (Johnson, 1997; Parkerson & Parkerson, 2001; Tozer et al., 1993) agreed with Spring (2001) that “Most post-revolutionary leaders rejected the notion of a multi-cultural society in favor of a unified American culture ... which would be formed around Protestant Anglo-Saxon traditions” (p. 57). Placing this belief in an historical context Johnson (1997) explained:

The Pilgrim Fathers had come to America precisely because England had become immoral and irreligious. They had built the “City on the Hill.” Again, their descendents had opted for independence and liberty because they felt their subjugation was itself immoral and irreligious and opposed to the Providential Plan. There is no question that the Declaration of Independence was, to those who signed it, a religious as well as a secular act, and that the Revolutionary War had the approbation of divine providence. (p. 204)
Johnson further stated that "Even the doubting and the unenthusiastic were clear that religion was needed in society, especially in a vast, rapidly growing and boisterous country like America" (p. 208). Concurring with this view, Kaeble (1983 cited in Spring, 2001) added that during this time there was an overriding belief in the superiority of American Protestant culture and the widely held perception that the religious values of Protestantism were at the core of the American experiment with republicanism.

Interwoven with a belief in the superiority of Protestantism was the concept of virtue as the guiding principle for worthwhile life. Virtue was superior to knowledge or wisdom (Elson, 1959), and whereas crime and poverty were believed to be "synonyms for anti-social behavior that stemmed from individual, moral failure," (Katz, 1988, p. 103) property was respected because it taught virtue. Kaeble, (1983) abbreviated this definition of 18th century virtue stating that to the republican essayist virtue meant "discipline, sacrifice, simplicity and intelligence" (Spring, 2001, p. 81). Historian, John Miller (1977) stated further that during the revolutionary era

...it was commonly believed that the republican form of government could not exist without 'virtue' – which signified in the vocabulary of the eighteenth century Enlightenment, love of country, an austere style of living, probity, strict observance of the moral code and willingness to sacrifice private profit for the public good. (cited in Tozer et al., 1993, p. 22)

Giving form and direction to these beliefs in Protestantism and virtue was a belief in the perfectibility of human beings. This notion of perfectibility was rooted in a widely accepted scientific notion that the human mind was made up of discrete parts or faculties, such as intelligence and morality, which could be influenced by environmental factors.
Thus it was assumed that the virtuous functioning of the moral faculty was dependent upon how it was cultivated and nurtured. Benjamin Rush, a leading American physician and signer of the Declaration of Independence, prescribed sunshine, a plain diet, water and cleanliness as necessary for a well functioning moral faculty (Spring, 2001).

Congruent with this belief in the malleability of character was the “idea that institutions could perfect the good person and create the good society” (Spring, 2001. p. 5).

Expanding on this idea, Spring observed further:

Revolutionary leaders were captured by the idea of perfectibility of humans and human institutions. They wanted to create a society that would be an alternative to the corrupt society of Europe and believed that education, by perfecting virtue would contribute to achieving this utopian goal. (p. 9)

As part of an effort to maintain these cultural underpinnings during the turbulence that followed the revolution, there was common concern among the leading political thinkers of the period “that the diverse colonial education experiences were not able to meet the challenges of the new Republic” (Spring, 2001, p. 7) and that some form of common school experience was necessary to promote political and social stability within the newly formed republic. In his 1790 essay “On the Education of Youth in America,” Noah Webster wrote:

It is an object of vast magnitude that systems of education should be adopted and pursued which may not only diffuse a knowledge of the sciences but may implant in the minds of the American youth the principle of virtue and of liberty and inspire them ... with an inviolable attachment to their country. (cited in Spring, 2001, p. 62)
Echoing Webster’s sentiment regarding the importance of education to the new republic, Thomas Jefferson wrote in a 1786 letter to George Wythe: “I think by far the most important bill in our whole code is that for the diffusion of knowledge among the people. No other sure foundation can be devised for the preservation of freedom and happiness.” (cited in Tozer et al., 1993, p. 23) Further supporting and giving legislative expression to the importance of education, Congress enacted two bills which deeded land to the territories to be used for education, the Confederation Land Ordinance of 1785 and the Northwest Ordinance of 1787, which specifically emphasizes the linkage between education and government stating, “knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged” (as cited in Parkerson & Parkerson, 2001, p. 8).

Section II: Competing Views of Education in Post-revolutionary America

Despite general agreement about the importance of education to the new republic, there were two competing views regarding the essential purpose of education. These differing perceptions were largely shaped by how each of their proponents balanced the values of freedom and order. Classic liberals, such as Thomas Jefferson, emphasizing the need to protect personal liberty, for which the Revolution had been fought, believed in the right and ability of individuals to be self-governing, and that an effective representative government depended upon an educated, informed, and rational citizenry. Classic liberals were fearful of strong central government and the abuse of power by a few. Giving expression to this fear, Jefferson wrote in 1820 “I know of no safe depository of the ultimate powers of society but the people themselves; and if we think
that they not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education.” (as cited in Tozer et al., 1993, p. 28) Given this perspective, Jefferson and other classic liberals viewed the role of schools as twofold: to foster an educated electorate and to develop future leaders. Moreover, they

...did not believe that schooling should impose political values or mold the virtuous republican citizen. Rather, he believed that education should provide the average citizen with the tools of reading and writing and the political beliefs would be formed through the exercise of reason. (Spring, 2001, p. 63)

As part of his effort to encourage a common school system modeled upon these beliefs, Jefferson proposed in 1779 “A Bill for the More General Diffusion of Knowledge” before the Virginia legislature, which outlined a system of primary and grammar school education. Under this proposal, the state would be divided into districts or wards. Each ward would then be required to provide at no expense to parents an elementary education to all children, male and female, for three years. Supervision was to be provided by an overseer, appointed by the elected alderman of the ward. Each overseer would then be responsible for about ten schools (Tozer et al., 1993). Regarding the curriculum, Jefferson wrote:

At every of these schools shall be taught reading, writing, and common arithmetic, and the books which shall be used therein for instructing the children to read shall be such as will at the same time make them acquainted with Graecian, Roman, English and American history (as cited in Tozer et al., 1993, p. 30).
While this three-year curriculum would provide the full extent of academic training for the majority of children:

Each year the overseers would choose from each elementary school "the boy of best genius in the school, of those whose parents are too poor to give them further education, and to send him forward to one of the grammar schools" at public expense. After the first year of the grammar school, the scholarship boys would be examined and the bottom third dismissed. At the end of the second year, the best scholarship student in each grammar school would be chosen to continue and the remainder dismissed. As Jefferson put it in his Notes on the State of Virginia, "By this means twenty of the best geniuses will be raked annually from the rubbish, and instructed at public expense, so far as the grammar schools go."

(Tozer et al., 1993, p. 30)

At its core, Jefferson's proposal represented an effort to expand, refine and institutionalize the renaissance model of education that was common in Virginia at the time, but one which Teaford's (1988) research showed had been in decline in New England one hundred years earlier and had ultimately collapsed by the American Revolution in favor of the writing school.

Opposing the classic liberal's view of education was that of the conservatives who valued order over freedom and were more concerned with "potential anarchy and violence of the masses ... and the need to limit the 'excess' of democracy" (Parkerson & Parkerson, 2001). To protect the fledgling republic, conservatives believed that moral and political values need to be imposed on the child:

Good republicans ... are formed by a singular machinery in the body politic,
which takes the child as soon as he can speak, checks his natural independence and passions, makes him subordinate to superior age, to laws of the state, to town and parochial institutions. (Noah Webster, as cited in Spring, 2001, p. 61)

In the same vein, Benjamin Rush, a noted conservative of the time, wrote in "Thoughts upon the mode of Education proper in a Republic" that

...schools..., by producing one general and uniform system of education, will render the mass of the people more homogeneous and thereby fit them more easily for uniform and peaceable government.

Let our pupil be taught that he does not belong to himself, but that he is public property. Let him be taught to love his family, but let him be taught, at the same time, that he must forsake, and even forget them, when the welfare of his country requires it.

...our business is to make them men, citizens and Christians. (as cited in Tozer et al., 1993, p. 39)

To support these conservative values, Noah Webster published a series of texts, A Grammatical Institute of the English Language, between 1783 and 1784. This series consisted of a speller, grammar book, and reader. In addition to teaching reading and writing, this series was intended to produce virtuous and patriotic Americans. To instill proper political and moral values both a Federal and a Moral Catechism were included in early versions of Webster's spelling book.

Moreover, his readers included Washington's Farewell orders to the army, patriotic poses and, for the first time in a schoolbook, a history of the Revolutionary War (Spring, 2001).
Despite the passion with which these differing views were contested among post-Revolutionary leaders and with the ratification of the U.S. Constitution in 1789, federal support for public education became largely abstract and symbolic. And with the ratification of the Tenth Amendment in 1793, the primary responsibility for education legally shifted to the states where "Legislations often ignored pleas to establish primary schools and allowed less expensive forms of primary education such as the private elementary and religious schools to persist without much oversight" (Parkerson & Parkerson, 2001, p. 8), or as Wiebe (1969) described:

It was in countless separate communities ... that the schools acquired their peculiar form. The leading families of the community in collaboration with the denominate church or churches gave what life they chose to the school, delegating subsidiary tasks to it much as they might have to a domestic servant. Where a foreign language predominated, it was spoken in the classroom. Where denominational doctrines mattered, they suffused the instruction. Where indifference prevailed, the schools languished, and where interest rose, the town paid more, cared more for the physical plant and even extended the curriculum.

In practical terms the function of the school originated within the community and stopped at its boundaries. (p. 151)

Thus, with one noteworthy exception, schooling remained largely unchanged following the American Revolution. Classrooms continued to be ungraded. Memorization and recitation continued to be the most common methods of instruction. Reading emphasized fluency rather than comprehension. McGuffey's reader continued to be the primary text until well into the 19th century, and teachers continued to instil
protestant values through daily prayer and readings from the Bible (Spring, 2001).

However, after the American Revolution, patriotic nationalism was integrated throughout the curriculum. Post-Revolutionary readers now typically “portrayed the American people as the most virtuous in the world and showed others as cruel or ignorant ... And even when other nationalities were seen in a positive light, the light reflected the values of Americans” (Parkerson & Parkerson, 2001, p. 100). These writers also noted that readers from this period often included stories about the Founding Fathers and dramatic recitations of patriotic speeches “with appropriate classical gestures” were now included in end-of-the-year examinations.

Section III: Evolution of the Common School

Meanwhile, in urban centers the charity school movement spread rapidly in the 1790s and early 1800s. Charity schools represented an attempt to use school as a means to socialize children of the poor to become virtuous patriots.

Based on a protestant understanding of virtue, which equated poverty, crime and social deviance with moral failure, “which arose because the lower-class urban family failed to implant earnestness and restraint within the character of its children” (Katz, 1988, p. 102), charity schools “sought to create good moral character by replacing a weak family structure” (Spring, 2001, p. 68).

In 1805, the state legislature of New York, a charter to incorporate “The Society for Establishing a Free School in the City of New York, for the Education of Such Poor Children as Do Not Belong To or Are Not Provided For, by Any Religious Society” to DeWitt Clinton and a group of other distinguished citizens, who “declared that they
wished to educate a class of children who were 'wandering about the streets, exposed to the influence of corrupt example' and 'destitute of all moral and mental culture'” (Smith, 1967, p. 681). Spring (2001) further cited the incorporation statement of the New York Free School Society when it described the condition of children of the poor as “deplorable indeed; reared up by parents who ... become either indifferent to the best interests of their offspring, or, through intemperate lives, are rendered unable to defray the expense of their instruction” (p. 69). By way of summary Spring notes that charity schools

in essence, ... were supposed to eliminate crime and poverty by replacing the failed government of the family with the government of the school and by keeping children off the streets and out of contact with potential criminal associations .... Education was supposed to provide the tools by which an individual could function in a social role, and the institutional environment was supposed to teach an individual how to use these tools in a moral manner. (p. 69)

To achieve these ends, the New York Free School society became early proponents of the Lancasterian system of instruction. When dedicating the new Free School Society building in 1809, DeWitt Clinton praised this new instructional system saying, “I consider his (Joseph Lancaster’s) system as creating a new era in education, as a blessing sent down from heaven to redeem the poor” (cited in Spring, 2001, p. 71).

This instructional system was designed to handle as many as 1000 students efficiently and inexpensively in a single room. To illustrate the functioning of the Lancasterian system Spring (2001) described a Pennsylvania engraving of a schoolroom that was intended to accommodate 450 students.
The teacher sits at the head of the room on a raised platform. Beneath and in front of the teacher are three rows of monitors’ desks placed directly in front of the pupils’ desks. The pupils’ desks are divided into three sections, each of which is divided into two parts, and each section is in line with one of the rows of monitors’ desks. Arrows on the engraving indicate that a group of pupils would march to the front of the room and stand around the monitors’ desks, where they would receive instruction from the monitors. When they finished, they would march to the rear part of their section and recite or receive further instruction from another monitor. While this group was marching to the rear, another group would be marching up to the front to take their places around the monitors. When finished, these pupils would march to the rear, and the group in the rear would move forward to the second part of their section to receive instruction from yet another monitor. Because each of the three sections had a group in front, one in the rear and one in the middle working on different things, a total of nine different recitations could be carried on at one time. (p. 71)

Spring (2001) noted further that educators of the period compared the Lancasterian system to a factory, and believed that by contributing to a sense of orderliness and obedience a child’s moral character was enhanced thereby making “him or her useful to and functional in society” (p. 72).

While the notion of a “common” education had long been a part of the vernacular of post-Revolutionary thinkers, it did not coalesce into cohesive movement or initiative until the 1830s, a period of intense political rivalry and social change. Writers (Johnson, 1997; Parkerson & Parkerson, 2001; Spring, 2001; Tozer et al., 1993) consistently noted
that the end of property qualifications and the establishment of universal male suffrage was a driving political catalyst, which heightened concerns regarding the need for an educated electorate. Furthermore, the Presidential election of 1828 saw, for the first time, competing political parties (Jacksonian Democrats and the National Republic Party, which in the early 1830s became the Whig Party) and it was these differences in political affiliation which ultimately defined the education reforms being advocated by each faction.

Much like Jefferson, Andrew Jackson believed that people were intrinsically right and moral. He emphasized personal freedom and believed that social order would occur naturally. Based on these perceptions Jackson, like Jefferson, believed that the best government was the one that governed least. In addition, many “Democrats viewed government attempts to order society as attempts to promote and protect the special privileges of the upper class” (Spring, 2001, p. 120). Jackson, himself, believed that residency alone should be enough to give adult white males the vote, reasoning that since they were all subject to the laws and punishments of government they should have the vote to influence government.

In contrast to the Democrats, the Whigs believed that government should actively maintain and regulate social order. Composed largely of urban Protestants, many of whom had previously supported the Federalist party, Whigs “were alarmed at the political power of the lower economic classes, whom they considered intellectually unready for the moral responsibilities of the vote” (Tozer et al., 1993). Thus to support and maintain the orderly society, need for the survival of the new republic, Whigs believed that social conditions must be controlled and organized in such a way as to
ensure that “passion does not reign over reason” (Spring, 2001, p 120).

While both Democrats and Whigs agreed on the need for education, they supported different educational goals and structures. For the mostly urban Whigs, concerned with the spread of universal male suffrage, the loosening of community ties brought on by increased social mobility, and the increasing rate of immigration from Ireland and continental Europe, schools were seen as the logical vehicle to order society by shaping the moral character of youths and acculturating them in the dominant values and perceptions that anchored Protestant American society. To achieve these ends, Whigs believed that government should be actively involved in establishing, financing and supervising common public schools.

By contrast, Democrats believing in the individual rights and the free market place of ideas felt “that any increased state interference in local educational matters created the potential, if not the reality, of a centralized state school system that would dictate how children were to be educated” (Kaestle, as cited in Spring, 2001, p. 122). Orestes Brownson, a member of the Democratic Party, a journalist and a critic of Horace Mann explained this position in his 1839 rebuttal to Mann’s Second Annual Report when he wrote:

Here the people do not look to the government for light, for instruction, but the government looks to the people. ... To entrust, then, the government with the power of determining the education which our children shall receive is entrusting our servant with the power to be our master. ... We may as well have a religion established by law, as a system of education, and the government educate and appoint the pastors of our churches, as well as the instructors of our children...
To educate a human being to be a man, to fulfill his destiny, to attain the end for which God made him, is not a matter which can, in the nature of things, come within the jurisdiction of a board, however judiciously it may be constituted.

(Brownson as cited in Tozer et al., 1993, p. 73)

With regard to education, the Whigs' political philosophy eventually prevailed and provided the basis for the common school movement. Thereby, schools became a vehicle "to solve social problems and build a political community" (Spring, 2001, p. 104) by inculcating large groups of immigrants with differing religious and cultural heritages into the dominant Protestant Anglo-American world view with its accompanying moral and political values.

In his analysis of the origins of public education in America, Katz (1988) observed that despite the "radical intrusiveness" of common schools into immigrant families most people did not need to be "coerced to send their children to school." This researcher noted further that the ease with which "public education entered social life stands out as truly remarkable." By way of explanation, Katz argued that while common schools were "initiated, sponsored and governed by well-to-do and locally powerful people," this was done largely by consent not force, and was considered by those less fortunate as a way to access the "social and intellectual prestige" of the dominant class.

Tozer et al. (1993) supported Katz's observations by noting that in Massachusetts the primary reason that the common school movement was successful was because its proponents, specifically Horace Mann, were... able to enlist the support of diverse elements... mercantile, banking and manufacturing interests were convinced that his common-school reforms would
provide long-term benefits for them. Moreover he seemed to convince many
working people that the common school would provide better education than was
previously available. Additionally, his suggestion that common-school education
was the vehicle to upward economic mobility was attractive to some less-than-
affluent people. (p. 68)

Spring (2001) commented further that “this belief in the ameliorating power of schooling
became an essential part of the common school movement” (p. 74) as was the belief that
education could, by transforming all children into virtuous patriots, eliminate crime and
poverty and stabilize the newly formed republican political system.

Contrary to this urban common school vision, Wiebe (1969) observed that much
of America was rural and highly decentralized. Under these conditions, individual
community schools were

... unified only in the loosest sense by this common rationale. It was in countless
separate communities ... that the schools acquired their peculiar form. The
leading families of the community in collaboration with the dominant church or
churches gave what life they chose to the school, delegating subsidiary tasks to it
much as they might have to a domestic servant. Where a foreign language
predominated, it was spoken in the classroom. Where denominational doctrines
mattered, they suffused the instruction. Where indifference prevailed, the schools
languished; and where interest rose, the town paid more, cared more for the
physical plant and even extended the curriculum. In practical terms the function
of the school originated within the community and stopped at its boundaries.

(p. 151)
Thus, it was in the urban centers of America where the common school took form and matured. To achieve its purpose of educating virtuous patriots, the common school largely “trained the heart not the head” (Elson, 1959). The curriculum emphasized “useful knowledge,” ... those arts that are functional to a more comfortable material life (and) are equated to republicanism and Americanism” (Elson, 1959, p. 413). Given the cultural backdrop of the times, for most people “useful knowledge,” translated into moral education, which in turn was synonymous with religious education. This perceived need to include religious education in the common school curriculum contributed to the political dilemma of which sect’s religious tenets should be represented in school.

Finally, ongoing denominational rivalries were set aside, when the Protestant majority was confronted by a large inflow of Irish Catholic immigrants. Then it was agreed by the majority that “religious education in the common schools was to be based on a nonsectarian use of the Bible with the teaching of broad religious principles common to all Christian denominations,” (Spring, 2001, p. 111) which in a practical sense resulted an endorsement of a curriculum that was “rooted in the values and culture of Protestantism” and included “daily prayer and readings from the Bible” (Parkerson & Parkerson, 2001, p. 100).

So while the primary intent of the common school was to encourage and nurture patriotism among an increasingly diverse population, the curriculum in both rural and urban regions continued to be firmly rooted in the values and culture of Protestantism. Spring (2001) explains further that those who spread the ideology of the common school, such as Horace Mann, the first secretary of the Massachusetts Board of Education, worked with as much fervor as leaders of religious crusades, but cautions the reader to
remember that the spread of new ideas requires a public that is willing to accept them, and that

In many ways, the public had been made ready for the acceptance of the basic ideas of the common school movement by the educational writers of the post-Revolutionary period, such as Noah Webster and Thomas Jefferson, and by the arguments of social and moral reform made by the leaders of the charity school movement and the Lancastrian system. (p. 107)

Spring (2001) also argued that the actualizing of the common school dream depended upon “a stable, inexpensive teaching force that would uphold in the classroom the moral ideals of the common school movement” (p. 133). Citing Mary Norton’s (1980) research, Spring noted that women’s secular role was limited to the domestic setting. However, “during and immediately after the Revolution, … writers began to link the domestic role of women with the development of republican citizens. Women, as mothers, were seen as having the responsibility for shaping the character of their sons as future republicans” (p. 135).

Congruent with the post-revolutionary expansion of the social role of females, educational opportunities for women increased. Whereas before the revolution, girls were given only the most elementary education in reading and writing, after the revolution … some academies began to open their doors to women and schools began to be established for the specific purpose of educating young girls. These new education opportunities for women included academic instruction in subjects such as geography, history, philosophy, and astronomy, which in the past had been
taught only to boys. (Spring, 2001, p. 135)

Spring (2001) noted further that during this period women had greater access to the profession of teaching because they were believed to have natural child-rearing talents which made them better suited to teach young children than men. In addition, many also believed that since women were less distracted by worldly concerns and had no other employment options, they would be more dedicated to teaching than men, or as was explained by the Boston School Board in its 1841 annual report:

As a class, they never look forward, as young men almost invariably do, to a period of legal emancipation from parental control, when they are to break away from the domestic circle and go abroad into the world, to build up a fortune for themselves; and hence, the sphere of home and of effort is narrower, and the who forces of the mind are more readily concentrated upon present duties. (as cited in Spring, 2001, p. 138)

In addition to having a natural inclination to child rearing and being more dedicated than their male counterparts, this same Boston School Board report insists that women were more virtuous and “of purer morals” noting further that

In the most notorious vices of the age, profanity, intemperance, fraud, &c., there are twenty men to one woman ... on this account, therefore, females are infinitely more fit than males to be guides and exemplars of young children. (as cited in Spring, 2001, p.138)

While these cultural beliefs about women supported their role as teachers, an additional perception -- that women were naturally subordinate to the more rational male, shaped the organizational structure of schools. Before the introduction of graded
classrooms, urban school buildings were constructed so that each floor functioned as a single one room multi-age classroom. "In 1823, Boston schools were being built with rooms that seated 300 pupils, on the premise that three large groups would be taught by one master teacher and two assistant teachers" (Spring, 2001, p.150).

Later, graded classrooms were inspired by the Prussian school system, which American observers admired for its efficiency and uniformity of instruction, two characteristics that complemented the common school objective of fostering a more cohesive republican society. The first graded school, the Quincy School, was built in 1848. John Philbrick, its first principal, was credited with convincing the Boston School Board to adopt this Prussian inspired model.

When the Quincy School was opened in 1848, its radical design attracted national attention. Rather than the unusual school construction of the period – large rooms accommodating hundreds of students -- the Quincy School contained a greater number of schoolrooms, each of which could hold fifty-six students. What was considered the greatest improvement was the provision of a separate room for each teacher and a desk for each student. The Boston School Committee adopted the specific requirement that each classroom be twenty-eight square feet. By 1855, the committee had every building in the city divided into small classrooms. By 1866, the Quincy plan became a model for school construction in San Francisco, New Orleans, Cincinnati, New Haven and Louisville. (Spring, 2001, p. 152)

Early in its development, one of the fundamental dilemmas of the graded system was how many levels there should be. In 1848 when the Quincy school was built, it was
typical for a student to attend school for 7 to 9 years. By 1870, when the U.S. Commission of Education surveyed 45 cities, the majority of elementary schools classified students into eight grades (Spring, 2001).

As schools evolved following the American Revolution, so did the governance of education. The community-based governance that dominated prior to the American Revolution was supplanted by a system which included greater state-level regulation and control. In discussing this change in school governance, Spring (2001) noted that in 1812, New York became the first state to create the position of state superintendent and by the 1830s state supervision and organization of schools became a major focus of educational reform across the United States. This author asserted further that:

The development of the role of superintendent was important in the evolution of a hierarchical educational organization. The primary reason for creating the position was to have a person work full-time at supervising classroom instruction and assuring uniformity in curriculum. The creation of the office of state superintendent was an important outgrowth of the common school reform movement. The purpose of the office was to organize a uniform system of common schools. (p. 154)

Concurring with Spring’s observation that the bureaucratic structure of education developed as part of the quest for a uniform system of education, others (Johnson, 1997, Tozer et al., 1993) argued further that this model was based on the Whigs' conceptualization of the common school as an institution to order society and protect the republic from the excesses of freedom and democracy.
Section IV: Education Quality in Post-revolutionary America

Based on Garvin’s (1988) historical model of quality, it is reasonable to suspect that after the American Revolution education quality continued to be conceptualized as a value judgment based on a cost–benefit analysis of an education outcome. However, as a review of the literature contained in this chapter shows, following the American Revolution, people’s perceptions regarding the function of education shifted in a discontinuous manner. As a result of this noteworthy post-Revolutionary shift in the function of education from religious to political, it is reasonable to assume that the construct of education quality was similarly redefined. Under these new political, social and ideological conditions, it might now be more reasonable to conceptualize education quality as the degree to which an educational experience contributes to a more uniform set of cultural beliefs, thereby lessening the likelihood of political disruption within the newly formed republic.

Whereas during the colonial period the purpose of education was religious in nature and ultimately defined by the sponsoring sect, after the Revolution, education was reframed in a political context and was widely viewed as essential for the preservation of the newly formed republic. Despite this general agreement regarding the importance of education to the survival of the new nation, there was ongoing disagreement about specifically how education was to be used to support the republic. These differing perceptions were largely shaped by how the various parties balanced the values of freedom and order. While classic liberals and Jacksonian Democrats believed that people were intrinsically moral, emphasized personal liberty, and were fearful of a strong central government, the conservatives, and later the Whigs, whose view ultimately prevailed,
valued order over freedom. Believing that to protect the fledgling republic it had to be protected from the excesses of democracy, the proponents of order over freedom argued that government should actively maintain and regulate social order and therefore should be involved in establishing, financing, and supervising common public schools where children from increasingly diverse cultural backgrounds could be inculcated as virtuous patriots into the ways of the dominant Protestant Anglo-American culture.

While Protestantism continued to play a pivotal role in education after the American Revolution, and thus shaped perceptions of education quality, its underlying social meaningfulness had changed. Consistent with Kuhn's (1996) observation that when new paradigms replace old, often the same vocabulary and concepts continue to be used, but not in the same way. In both colonial and post-Revolutionary America Protestantism played a pivotal role; however, after the American Revolution its cultural importance as a vehicle for unifying diverse peoples and preserving social order was emphasized over its religious mission to equip people to achieve spiritual salvation.

Recalling that "Most post-revolutionary leaders rejected the notion of a multicultural society in favor of a unified American culture ... which would be formed around Protestant Anglo-Saxon Traditions," (Spring, 2001) and that interwoven with a belief in the superiority of Protestantism was the concept of virtue as the guiding principle for a worthwhile life. Thus, in education, virtue was the foundation of social order. Virtue was accepted as superior to knowledge or wisdom, and widely seen as the antidote to crime and poverty, which was believed to be the result of individual moral failure (Katz, 1988).

Thus, after the American Revolution, the primary role of education was to
enhance social order through a process of enculturation. With this paradigm shift, the meaningfulness of Protestantism within the society at large was less sectarian and more secular. Protestantism was more importantly a cultural framework to foster social cohesion and political stability than a religious orthodoxy or spiritual means to salvation. Congruent with this fundamental social change, the function of education shifted from supporting the interests, beliefs, and values of particular religious sects to fostering social cohesion, domestic tranquility and political order.

Under these conditions, the meaning of education quality reasonably underwent a similar shift. Whereas in colonial America education, quality likely referred to a value judgment based on a comparison of the degree to which an educational experience advanced the interests, beliefs, and values of the sponsoring religious sect weighted against the monetary and non-monetary cost of securing that outcome. In post-Revolutionary America education quality likely referred to a value judgment regarding the degree to which an educational experience contributed to a more uniform set of cultural beliefs, thereby lessening the likelihood of political disruption within the newly formed republic.
CHAPTER 5

Post-industrial Revolution Education in America

Continuing to build on the hypothesis that under revolutionary pressure the function of education changes, and thus by extension so too does education quality, this chapter presents an historic overview of public schooling in the United States following the Industrial Revolution. Like the previous chapter, this chapter is guided by the following fundamental questions: Did the function of education in America change noticeably as a result of the American Revolution as Kuhn's (1996) theory of paradigm shifts would suggest? And secondly, if the function of education did change, how was it redefined?

Before exploring the broad range of social, political, and ideological factors that might provide insight into these questions, this chapter begins in Section I by providing a rationale for dating the Industrial Revolution to the later years of the 19th century and delineates its defining characteristics. Section II then provides an overview of education during the progressive era. Section III continues by looking at education during the post World War II, Cold War era. Section IV then considers education as part of the War on Poverty. Section V discusses the landmark publication "A Nation at Risk" and traces its effects to the present. Lastly, this chapter concludes in Section VI with a discussion of
the construct, education quality.

Section I: Delineating the Industrial Revolution

For the purpose of this study, the Industrial Revolution is being delineated by managerial rather than mechanical innovations. While Johnson (1997) described the introduction of the Boulton-Watt steam engine in 1785 as the “Big Bang” of what was to become the Industrial Revolution, ultimately the features that made the change a revolutionary one and resulted in a fundamental shift in people’s thinking were managerial not mechanical.

From the 1790s when steam power was first used in Rhode Island and New Jersey, through the 1830s when over 35% of the plants in Pennsylvania were powered by steam, to the 1840s when the major rail routes between the east coast and the Mississippi had been completed, to 1894 when for the first time the United States ranked first in output among the world's manufacturing countries (Johnson, 1997) tools were becoming increasingly bigger, more complex and powerful. Most work continued to be organized around the craftsmanship model with a skilled worker making and executing production decisions. However, as factories grew in size and capacity, the craftsmanship model made it difficult to efficiently organize and coordinate the flow of production. This systemic inefficiency seriously limited a firm’s profitability and raised the question of what was the best way to allocate men and materials to maximize profitability in a modern manufacturing facility. The eventual solution revolutionized industry and provided a paradigm that helped reframe social institutions.

The problem of maximizing industrial efficiency was solved by the widespread
adoption in the 1890s of "scientific management" practices like those advocated by Frederick W. Taylor, Frank and Lillian M. Gilbreth and Henry L. Gantt. Taylor, often called the Father of Scientific Management, believed workers could not be trusted to maximize their efficiency and that if left unsupervised, they could be expected to "slack off." Maximal efficiency could only be achieved with the help of specialists known as management scientists whose job it was to redesign tasks to conform to the one right way. Since before Taylor, production standards did not exist, it was impossible to evaluate workers or to know if efficiency was being maximized. To correct this problem, Taylor broke tasks down to component parts, called job fractions or basic work units. He then observed and timed workers, conducting time and motion studies, to determine the most efficient method or combination of motions to complete a task, which was then identified as "the one right way" (Montana & Charnov, 2000).

By breaking down skilled jobs into component parts, which unskilled workers could be taught to perform in a short time, fewer skilled workers were needed, and those that remained lost the ability to structure and organize their work. This dramatically reduced the power and influence of skilled workers within the workplace. It also helped to create jobs that had never before existed.

If all decision making and planning was to be taken from workers on the shop floor, then elaborate systems of planning and monitoring and reporting had to be established, systems that required a great deal of paperwork. Adding this layer of bureaucracy to the production process could be costly and inefficient unless it too, was managed scientifically by having a low paid, low-skilled corps of clerks who could follow directions and do the routine paperwork such as record keeping,
typing, and mailing, that would otherwise occupy their more highly paid decision making superiors. Women were considered to be the ideal candidates for such positions, in part because office employment would reduce the degree to which women competed with men for higher-paying industrial jobs. (Tozer et al., 1993, p. 126)

In conjunction with increased industrialization and the widespread acceptance of scientific management principles, increased immigration and urbanization further disrupted traditional social structures and contributed to social tensions during the 1890s and into the 20th century.

Whole neighborhoods were filthy, foul smelling and overcrowded. In cities like Boston, New York, and Chicago houses adjoined stables, and offal, debris, and horse manure littered the streets. Piles of garbage in the front of buildings or in narrow passageways between houses gave rise to stomach-turning odors and a large rat population. The population density was astronomical, some sections of Chicago, for example, having three times as many inhabitants as the most crowded portions of Tokyo and Calcutta. In 1901 a Polish neighborhood in the Windy City averaged 340 people per acre, and a three-block area housed 7,306 children! … One survey taken found that 1,231 Italians were living in 120 rooms in New York; another reporter could not find a single bathtub in a three-block area of tenements. (Dinnerstein & Reimers, as cited in Tozer et al., 1993, p. 119)

In addition to poverty, inadequate housing, and poor sanitation “urbanization brought an increase in crimes against persons and property, government corruption and … strife between laborers and employers” (Tozer et al., 1993, p.119).
Despite these problems most Americans were optimistic (Parkerson & Parkerson, 2001). By 1894, the United States was already the wealthiest country in the world, in terms of the living standards of most of its inhabitants. It was producing more than Britain and half as much as all of Europe combined (Johnson, 1997). Rapid progress was believed to be a natural and inevitable part of America’s national destiny. People believed that all problems could be solved through the coordinated efforts of science, technology, and government. All that was needed was the efficient application of the best scientific knowledge and expertise. Thus, despite challenges presented by rapid industrialization, immigration, and urbanization, it was widely accepted that a well-run and ordered society was as achievable as a well-run and efficient corporation.

Section II: Progressive Education Era

Driven by these perceptions and beliefs, middle class businessmen and professionals led the urban reform movement of the 1890s. These reformers sought to address the inefficiencies and “corrupting influences” of ward politics, by centralizing political power within a city counsel composed of at-large representatives from throughout the city (Tozer et al., 1993).

Concurrent with this urban reform effort to centralize political power, school reformers of the period were working to “overcome the inefficiencies of the local school board model” and “eliminate corruption in schools due to the influence of party politics” by shifting power to a single citywide school board (Parkerson & Parkerson, 2001, p. 177). An early example of the effects of this shift was the Butler Plan instituted in New York City during the 1890s. Under this plan schools were restructured on the basis of the
corporate model.

At the top was the superintendent of schools who would be selected from the board of superintendents. The superintendent, in cooperation with the board, would direct policy and make final decisions regarding hiring, promotion, dismissal, and curriculum. Below the superintendent was the school board. Composed of businessmen and elected from the city at large they directed the general policy of the schools. Under the school board were the principals who were responsible for carrying out the day-to-day operations of the schools.

Finally, at the bottom of the corporate model were teachers who carried out the policy directives of their “superiors.” (Parkerson & Parkerson, 2001, p. 178)

Shortly thereafter, similar plans were adopted in Cleveland and Chicago over the objections of teachers. With this momentum the corporate reform model was virtually unstoppable (Parkerson & Parkerson, 2001) and by the end of the 19th century, the typical American school system included:

1. A hierarchy with a superintendent at the top and orders flowing from the top to the bottom of the organization.

2. Clearly defined differences in roles of superintendent, principals, assistant principals, and teachers.

3. Graded schools in which students progressively moved from one grade to another.

4. A graded course of study for the entire school system to assure uniformity in teaching in all grades in the system.

5. An emphasis on rational planning, order, regularity and punctuality. (Tyack,
as cited in Spring, 2001, p. 149)

This was the era of progressive education, characterized by a rejection of "the traditional, classical curriculum and its methods of rote learning in favor of child-centered curriculum that emphasized student interests and activities related to the large society" (Tozer et al., 1993, p. 140). While some, like the noted philosopher John Dewey, drew on the thinking of Thomas Jefferson and other classic liberals and argued that "school could be a 'laboratory for democracy' in which children developed the understandings ... required for democratic life not by reading about them in books, but by interacting democratically in their learning activities" (p. 143), the view of progressivism that ultimately shaped the function, curricula, practices and structure of public education during this period was guided by doctrines of social efficiency. Schools, like other political and economic institutions, were expected to represent the interests of the governed and to contribute to the achievement of an orderly society "through the application of the best principles of scientific knowledge and expertise" (Tozer et al., 1993, p. 141).

Prior to 1900, there was little support for public education to provide specific occupational training. Spring (2001) argued that in many ways the Committee of Ten report issued by the National Education Association in 1894 represented the crossroads between the common school and the industrial education movements "between an educational system designed to provide everyone with a common education, and an educational system organized to provide everyone with a specific education based on their future social destination" (p. 256).

Originally charged in 1892, during a period of rapid high school expansion, with
developing uniform requirements for admission to college, The Committee of Ten on Secondary School Studies’ final report established a general framework for discussing the function of secondary education and its goals. “One of the major questions for the Committee was whether or not different courses of study should be offered to students ending their education at the secondary level and those planning to go on to college” (p. 256). At one of the first presentations of the report, Francis Parker, a noted educator of the period, captured the conformity of thinking that existed in 1894 when he stated:

One unanimous conclusion of all the conferences (that produced the report), a conclusion without a single dissenting voice, or vote, is worth all the cost and all the pains that were necessary to produce the report. That conclusion is that there should be no such thing as class education. ... There is no reason why one child should study Latin and another limited to the ‘3R’s.” (as cited in Spring, 2001, p. 256)

However, history shows that by 1906 public sentiment had changed suddenly in favor of a differentiated curriculum and industrial education. To explain this dramatic and fundamental change, Sol Cohen (1968) noted the close temporal connection between child labor and compulsory education movements and the increased public support for differentiated curricula. He observed that until the late 19th century, child labor was “not only acceptable but praiseworthy,” (Cohen, 1968, p. 96) but that in an industrial age, where there was no longer a system of apprenticeship, children only represented cheap labor which displaced adult workers.

Cohen (1968) continued by arguing that from the very beginning, reformers realized that it was not enough to bar children from factories. They had to go to school
and attend for as long as possible. "One of the initial aims of child labor reformers was to establish fourteen years of age as a minimum age of school leaving" (p. 96). The problem was that any increases in school population were more than offset by high dropout rates.

Children were leaving schools in large numbers, as soon as they could. It was estimated that only 40-50% of children finished the eight grades of elementary school. Only 8-10% finished a high school course. Between the ages of 13-15 more than 50% of the children dropped out of school, most of them in the sixth and seventh grades. (Cohen, 1968, p. 97)

In his review of the literature of the period, Cohen (1968) notes there was a single reoccurring explanation for this phenomenon, which gained widespread acceptance. "Children leave school because they do not like to go to school, because the work is distasteful to them and offers them little or nothing that they conceive to be of value in their lives. It is useless to attempt to explain the great loss in school attendance on other grounds. (Todd, H., as cited in Cohen, 1968, p. 98) Given this conceptualization of the problem, it was reasoned that "if children were offered industrial training, the schools' holding power would be enormously increased" and, "if vocational training was not what the children wanted, it was what they needed" (p. 98).

As an alternative to Cohen's explanation, Spring (2001) attributed the sudden public support for a differentiated curriculum and industrial education directly to economic concerns about America's competitiveness in world markets. To support this position, Spring cited a 1905 report by the National Association of Manufactures' Committee on Industrial Education, which stated:
Technical and trade education for youth is a national necessity, and the ... nation must train its youth in the arts of production and distribution. ... The German technical and trade schools are at once the admiration and fear of all countries. In the world’s race for commercial supremacy we must copy and improve upon the German method of education.” (as cited in Spring, 2001, p. 266)

Interestingly, Cohen’s (1968) research identified the following year, 1906, as a pivotal date for industrial education noting that with the publication of the Report of the Massachusetts Commission on Industrial and Technical Education and the founding, later that year, of the National Society for the Promotion of Industrial Education the push for industrial education began in earnest.

Bankers, businessmen, industrialists, philanthropists, social workers, educators, all jumped on the bandwagon. Few movements in the history of American education have taken so sudden and so powerful a hold on the minds of school reformers. (p. 95)

When schools did not respond quickly enough to this sudden change in public sentiment, they came under attack. President Theodore Roosevelt, in his Annual Message to Congress in 1907, declared: “Our school system is gravely defective in so far as it puts a premium upon mere literacy and tends therefore to train the boy away from the farm and the workshop” (as cited in Cohen, 1968, p. 102). Leonard Ayres in his 1908 book Laggards in Our School, criticized school curricula for being “adjusted to the power of the brighter pupils ... beyond the powers of the average pupils and far beyond those of the slower ones” (as cited in Cohen, 1968, p. 99). Andrew Draper, Commissioner of Education for New York State, in an address to the National Education Association
entitled "The Adaptation of the Schools to Industry and Efficiency" argued that public schools were encouraging too many children to reach beyond their social destiny when he observed:

Our elementary schools trained for no industrial employments. They lead to nothing but the secondary school, which in turn leads to the college, the university, and the professional school, and so very exclusively to the professional and managerial occupations. (p. 70)

Agreeing with Draper, James Joyner, Superintendent of Schools of North Carolina, argued that since 90% of the people make their living by industrial pursuits, America needed an educational system adapted to "the industrial masses, who are the people" (as cited in Cohen, 1968, p. 98).

Under pressure from such widespread criticism, the National Education Association issued the "Report of the Committee on the Place of Industries in Public Education" in 1910. This report was regarded as a major statement and confirmed the importance of industrial education within a democratic educational system. In the committee's summary of its work it confirmed the following conclusions:

1. Industry, as a controlling factor in social progress, has for education a fundamental and permanent significance.

2. Educational standards, applicable in an age of handicraft, presumably need radical change in the present day of complex and highly specialized industrial development.

3. The social aim of education and the psychological needs of childhood alike require that industrial (manual-constructive) activities form an
important part of school occupations.

a. In the elementary school, such occupations are necessary to provide concreteness of motive and meaning, to insure positive and lasting results for instruction, and to bring about a vital relation between life with the school and life outside.

b. In intermediate schools industrial occupations are an important element in the wide range of experience necessary for the proper testing of children's aptitudes as a basis for subsequent choice of specific pursuits either in vocations or in higher schools.

c. In secondary schools, industrial occupations properly furnish the central and dominant factor in the education of those pupils who make final choice of an industrial vocation. Vocational purpose is the distinguishing mark of the "technical" high school as distinct from the "Manual Training" high school.

4. The difference among children as to aptitudes, interests, economic resources and prospective careers furnish the basis for a rational as opposed to a merely formal distinction between elementary, secondary, and higher education ... (as cited in Tozer et al., 1993, p. 152)

Two years later in 1912, The National Association of Manufactures issued another report from the Committee on Industrial Education which expanded on its 1905 by emphasizing the importance of developing human capital to combat foreign competition. This report argued that there were two kinds of capital in the world. "One type includes land, machinery, and money, and the other kind is human capital – the
character, brains and muscle of the people ... This capital we have not developed; we have overlooked the whole question of its complete and efficient development" (p. 266).

The report further stated that failure to develop human capital contributed to industrial waste and warned, "We should act at once because of the stress of foreign competition. We are twenty-five years behind most of the nations that we recognize as competitors. We must come nearer to the level of international competition" (as cited in Spring, 2001, p. 266).

Many of these same arguments were restated in 1914 when the Congressional Commission on National Aid to Vocational Education issued its report, which Spring (2001) described as opening:

...with a general plea for vocational education as a means of reducing waste in the use of human resources. It also argues that vocational education is justified from a purely educational point of view because it meets the individual needs of students; provides equal opportunity for all to prepare for their life of work; develops a better teaching process -- learning by doing; and introduces the idea of utility into education. The report also claims that vocational education would reduce the discontent of workers...

The report ... elaborates on the necessity for vocational education as a means of developing human capital through addressing problems in natural resources and the traditional dependence of American industry on foreign labor. The report argues that as America's natural resources were being depleted, foreign countries were finding new sources of supply. "We cannot continue to draw indefinitely on Europe for cheap labor, nor will cheap labor in the immediate future meet the
urgent need in American industry for the more intelligent service necessary if we are to satisfy the rising demand for a better product from our domestic as well as our foreign markets.” (p. 267)

In 1917, based largely on the recommendation contained in this report, the Smith-Hughes Act was passed. This legislation established a federal board for vocational education, which was responsible for advising state and local communities, administer vocational education funds and conduct research. The money budgeted under this act was intended to motivate state and community action, and by clearly separating vocational from academic training, it effectively served to sponsored a dual system of education (Spring, 2001).

In 1918 a year after the enactment of the Smith-Hughes Act, the National Education Association’s Commission on the Reorganization of Secondary Education issued its landmark report, “Cardinal Principles of Secondary Education,” which effectively reversed the position of the Committee of Ten at the close of the 19th century (Spring 2001).

Among the central questions facing this commission was whether or not a differentiated curriculum required separate vocational and academic schools. In their response, the commission argued for comprehensive schools since this would help “the pupil through a wide variety of contacts and experiences to obtain a basis for intelligent choice of his educational and vocational career” (as cited in Spring, p. 261). The commission further justified the comprehensive school as a way of encouraging what it called the “two components of democracy” – specialization and unification.

According to the commission’s report, “The purpose of democracy is so to
organize society that each member may develop his personality primarily through activities designed for the well-being of his fellow members of society as a whole" (as cited in Spring, 2001, p. 261). Within the context of this argument, Spring (2001) observed that democracy and by extension schools

...was viewed mainly as a means of social organization that would allow each individual to do that what she or he is best able to do for the good of the social whole. Education was supposed to fit the individual into a social position that would enable him or her to make a maximum contribution to society. (p. 261)

The report goes on to state that in addition the social-efficiency provided through specialization, the ideal democracy was characterized by unification – “that part of the ideal democracy that brought people together and gave them common ideas, common ideals and common modes of thought, feeling, and action that made for cooperation, social cohesion, and social solidarity” (as cited in Spring, 2001, p. 261). Recognizing that differentiated curriculum was an obstacle to social cohesion, the commission proposed three means of creating a sense of unity.

The first, which was directed at the immigrant, emphasized the need for teaching the “mother tongue” and social studies. The other two were organizational techniques; one was 'social mingling of pupils through the organization and administration of the school,' the other, directly related to this proposal, was “participation of pupils in common activities ... such as athletic games, social activities, and the government of the school.”

Thus, the twentieth-century solution to building unification and cooperation through education was to provide extracurricular activities in the high school.
(Spring, 2001, p. 262)

In addition to extracurricular activities, Fowler (2000) noted that during the first quarter of the 20th century "other policy mechanisms developed to facilitate and support the differentiation of the secondary curriculum into tracks" (p. 337) including: ability grouping, guidance counseling, IQ testing, junior high schools, school psychology, standardized achievement testing and vocational guidance. Fowler further observed:

Throughout the rest of this period, leaders considered the public schools a major instrument of public policy, which the government could (and did) use to meet a broad range of social and economic needs; training future workers, identifying young people's ability levels and channeling them into the "right" career directions, helping the United States maintain its economic and military supremacy, and encouraging most youngsters to "adjust" rather than to develop high-level cognitive skills that would not be needed in their workplace. (p. 337)

In summary, Fowler supported Spring's (1989) characterization of the public education system from this period as "the great sorting machine" (p. 339).

Driven to maximize social efficiency and influenced by the scientific management theory of Frederick Taylor, "school administrators applied themselves to their newly acquired roles by trying to establish uniform procedures and lines of control" (Spring, 2001, p. 293). Standardization and cost effectiveness became the buzzwords of the times. Administrators standardized student and teacher forms, personnel records and hiring procedures. Frank Spaulding, a nationally renowned superintendent of the period, conducted studies comparing the economic value of different parts of the curriculum.

Using a complex and vague formula, Spaulding reported in 1920 on the
comparative worth of high school subjects. He argued that educational administrators needed to determine the cost and educational value of the subjects taught so that scientific decisions could be made about the cost-—efficiency of the curriculum. For example, he determined "that 5.9 pupil recitations in Greek are of the same value as 23.8 pupil recitations in French; that 12 pupil recitations in science are equivalent in value to 19.2 pupil recitations in English." Based on these calculations and a concern with cost-effectiveness, Spaulding argued that "when the obligations of the present year expire, we ought to purchase no more Greek instruction at the rate of 5.9 pupil-recitations for a dollar. The price must go down, or we shall invest in something else. (Spring, 2001, p. 293)

Consistent with this interest in cost effectiveness, classes were large by today's standards. At about the time of World War I the average elementary class consisted of approximately 50 students. To help avoid noise and confusion, noted school architect CBJ Snyder designed what was to become the standard classroom plan: rows of desks were bolted to the floor facing the blackboard (Spring, 2001).

Since the class size and the organization of classrooms made it difficult for teachers to adopt pedagogical techniques that required a great deal of student mobility, the most commonly used instructional methods, advocated by the leading educational psychologist of the period, Edward Thorndike, were based on a behavioral training model, and emphasized exercise and drill (Spring 2001).

In his 1913 work, Educational Psychology, Thorndike translated stimulus-response paradigm into what he called "connectionism" or the linkage of stimulus and response as the defining characteristic of learning.
Thorndike viewed teaching as a science concerned with the control of human behavior: "Using psychological terms, the art of teaching may be defined as the art of giving and withholding stimuli with the result of producing and preventing certain responses" (Spring, 2001, p. 248).

According to Spring (2001):

Thorndike’s dream was to turn all teaching into a scientific profession in which all educators would be guided by the scientific method and spirit. As scientific professionals, educators would be concerned with controlling the learning of students and with scientific measurement of results. In Thorndike’s world, the scientifically constructed test is at the heart of the educational process: “Testing the results of teaching and study is for the teacher what verification of theories is for the scientist… It is the chief means of fitting teaching to the previous experience and individual capacities of pupils. (p. 248)

Spring (2001) argued that Thorndike’s methods of instruction “simply justified the traditional by making it sound scientific” (p. 248).

In this school environment created by having large numbers of students seated at bolted-down desks being trained by Thorndike’s drill, reward and measurement methods of instruction, William Bagley’s Classroom Management became a standard teacher training text and was reprinted thirty times between 1907 and 1927.

Bagley believed that the primary role of the school is to build good industrial habits of the type needed on the assembly line. Bagley’s ideal teacher is one who would “rigidly ‘hew to the line’ in all of those initial stages of habit building,” and in his ideal school everything is reduced to rigid routine. Bagley states that the
expert observer could immediately gauge the efficiency of the teacher by the
“manner in which lines passed to and from the room.

...he advocated the Lancastrian method of lockstep marching. He also insisted
that students be given drills in packing their desks in a certain order, in going to
assigned places at the blackboard, in leaving the room, and in marching through
the cloakroom to collect coats. To reduce the problem of children interrupting
class activities, he stated that “regular habits should be speedily established with
regard to the bodily functions.” He recommended that lines of children pass
through the lavatories at recess time before they are allowed on the playground.
Bagley urged teachers to train their students to give physical attention on
command: “In general, the command Attention! should be stimulus for the
habitual adjustment of the body in a certain definite posture.” He recommended
as the ideal posture “head erect, eyes turned toward the teacher, hands or arms
folded (preferably the former), feet flat on the floor, instant cessation of all ...
school work or activity.” (Spring, 2001, p. 249)

Finally, bureaucratic oversight and control was augmented by the widespread
introduction of the lesson plan during this period. Originally, developed by a German
Psychologist, Johann Herbart, to help teachers present new learning to students in an
organized manner, in a scientifically managed educational environment characterized by
top-down bureaucratic control, Herbart’s lesson plan became an indispensable
administrative tool by which principals and superintendents could quickly monitor
teacher activity (Spring 2001). “Also as it developed, the lesson plan reflected a
conceptualization of education that placed an emphasis on order and planning” (Spring,
While the attainment of social efficiency was widely accepted as the goal of education during this period, Walters, McCammon and James (1990) argued that in fact the supply of education, or the availability of schooling, during the early 20th century could be largely accounted for by understanding the economic needs of the local elite. Explaining that policy decisions, which regulated the supply of education such as building schools and hiring teachers “were strongly shaped by local class interests and strengths,” and that since education was predominantly a local responsibility, these researchers argued that “the political fortunes of local officials depended on enhancing the economic fortunes of local elites. Local officials had to cooperate with the most powerful segment of local constituencies to keep their jobs” (p. 6). Thus, recognizing Elites were more likely to attempt to expand educational opportunities for the subordinate class and socialize them for subordinate roles if the subordinate class was enfranchised and free-market conditions prevailed. Elites were more likely to attempt to restrict education opportunities as part of an effort to maintain and adequate supply of low-wage labor if the subordinate class was disfranchised and coercive methods of labor control prevailed. (p. 2)

Under these conditions, Walters, McCammon & James (1990) observe that in the north, where the subordinate class was enfranchised, relatively free market conditions existed and there was a demand for labor, “the supply of education tended to stay equal to or slightly ahead of demand.” However, in more rural southern regions where …economic production was dominated by plantation agriculture, and racial segregation interfered with competitive labor markets. The interests of plantation
owners in preserving the coercive labor relations of the plantation system were
served by the restriction, not the expansion of the supply of schooling. ... funds
did not satisfy the demand for schooling especially among blacks [sic]. (p. 2)

During the early years of the 20th century, this positive relationship between the
availability of schooling and the increasing demand for labor in an expanding economy is
documented by the work of other writers. Using the 1889-1900 school year as a baseline,
358,000 students or 7% of 14 to 17 year olds were enrolled in public and private
secondary schools. By the 1919-1920 school year, in a robust post-war economic
environment and increasing productivity associated with industrialization, 2.5 million
students or 32% of 14 to 17 year olds were enrolled in schools (Tozer et al., 1993).

Johnson (1997) stated further that “Between 1910 and 1930, but especially in the second
half of the period, total education spending in the US rose fourfold, from $426.25 million
to $2.3 billion” (p. 719).

This trend of expanding school availability reversed in 1930 with the onset of the
worst depression in American history, accompanied by concurrent decrease in demand
for labor and monies for public spending. As Johnson (1997) noted:

Unemployment had been only 3.2 percent in 1929. It rose to 24.9 percent in 1933
and 26.7 percent in 1934. At one point it was estimated that (excluding farm
families) about 34 million men, women, and children were without any income at
all - 28 percent of the population. ... Chicago owed its teachers $20 million. In
some areas school closed down most of the time. In New York in 1932 more than
300,000 children could not be taught because there were no funds. (p. 743)

Spring (2001) further argued that conditions associated with the Depression
contributed to several major political changes, which would continue to shape education well into the second half of the century. First, the economic crisis fragmented the traditional alliance formed by school administrators, school boards, and local elites. As the depression deepened and school revenues fell, members of the business community increasingly called for reductions in teacher salaries and educational programs. A major demand of the business community was to eliminate "fads and frills" and identified vocational education and kindergarten as areas to be cut.

While school boards often were willing to reduce teacher salaries they resisted cuts to educational programs. According to Spring (2001):

The split between school board and the business community indicates an emerging division at the time between those wanting to solve the problems of the Depression by reducing government spending and those wanting to use the government to protect the economic system. (p. 326)

Amidst these somber economic times, some highly visible educators began to advocate for schools to be used as a means for bringing about a radical transformation of society. Among these was George Counts who at the 1932 annual meeting of the Progressive Education Association delivered a speech titled, "Dare Progressive Education Be Progressive?" and which was later distributed in print under the title, "Dare the Schools Build a New Social Order?"

In his speech, Counts attacked the organization of capitalism as being "cruel and inhuman" and "wasteful and inefficient." He argued that concepts of competition and rugged individualism had become outmoded with the development of science and technology and called for a new economic system that would free people
from poverty. (Spring, 2001, p. 327)

Spurred by Counts’ challenge for schools to be used to build a new social order, the National Education Association’s Committee on Social-Economic Goals for America issued a report at its annual convention that same year which stated “the NEA is saying, and I hope saying more or less militantly, that a social order can be built in which a social collapse such as the present one will be impossible” (cited in Spring, 2001, p. 328).

While public schools never assumed the activist role advocated by Counts, the social reconstructionist movement did contribute to the impression that educators were among the more liberal elements of society. This image in turn helped widen the gap between educators and the business community, and later, in the 1940s and 1950s, lent credence to the argument that public education had come under the influence of communists.

Section III: Post World War II and Cold War Era

United States mobilization for World War II ended the Depression and signaled the beginning of a period of robust economic expansion for the United States. In his description of post World War II America, Johnson (1997) stated:

In the second half of the 1940s the United States had a productive preponderance over the rest of the world never before attained by any one power... With only 7 percent of the world’s population, it had 42 percent of its income and half of its manufacturing capacity. It produced 57.5 percent of the world’s steel, 43.5 percent of it electricity, 62 percent of its oil, 80 percent of its automobiles. (p. 808)
...in global terms the dollar was almighty, and the federal government had the
disposal of huge sums. In 1939 its income had been $9.4 billion only. By 1945 it
had risen to $95.2 billion, partly by raising the national debt, from $56.9 billion in
December 1941 to $252.7 billion in December 1945, but partly by massive
increases in taxation. ... GNP (in constant 1939 dollars) had risen from $88.6
billion in 1939 to $135 billion in 1945. The war had enormously benefited the US
economy, raising its productive capacity by nearly 50 percent and its actual output
of goods to well over 50 percent. The economy had been growing at the rate of
15 percent annually, a rate never reach before, or since, and much of this was civil
production to meet the demands of a nation now enjoying full employment and
high wages. (p. 809)

Tozer et al. (1993) described the ideological culture which dominated during this
same period by stating that "the beliefs and values shared by leaders of American
economic, political and military institutions ... were a clear extension of progressive-era
new liberalism" (p. 191).

Democracy had come to be regarded as a form of government that was properly
administered by experts with only the perfunctory consent of the governed. The
so-called "common man" was characterized as too selfish, uniformed, and
conformist to be capable of the rigors of governing in a complex age. Following
the notion of the bell-shaped curve, leaders from all walks of life assumed that
only a few individuals had superior intellects and that the welfare of the United
States depended on locating these superior minds and placing them in positions of
authority. (p. 191)
Moreover,

Freedom became increasingly identified with "our" way of life, and "theirs" was unfree. Socialism, which had enjoyed a period of popularity earlier in the century, was increasingly characterized as a "foreign" system of thought and therefore totalitarian and anti-American. "Free-market capitalism" was opposed to "state-controlled economies," in public discourse, even though capitalism in the United States had long since ceased to be "free market." However, the identification of the United States with freedom itself, politically and economically, served to stifle critical discourse about our own social system.

(p. 192)

Internationally, against this backdrop of prosperity, the ideological dominance of progressive-era new liberalism and narrow understanding of freedom, anti-communist sentiment gripped the country as, beginning in 1945, the Soviet Union muscled and coerced its way into eastern Europe, establishing puppet governments wherever they could (Johnson, 1997). In 1945 Averell Harriman, told then Secretary of the Navy, James Forrestal, that "half and maybe all of Europe might be Communist by the end of next winter." While "William Donovan, head of the Office of Strategic Services, the America's nearest approach to a global intelligence agency ... urged that, in light of the cumulatively terrifying reports flowing in from American agents allover Europe, measures should quickly be taken to coordinate Western defenses" (Johnson, 1997, p. 806).

In 1947 (Johnson, 1997),

Winston Churchill, at Truman's invitation came to Fulton, Missouri, and
delivered, with the President’s strong approval, his famous speech insisting that
“From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has
descended across the Continent of Europe” and demanding that America and its
allies should work together without delay to provide “an overwhelming assurance
of security.” (p. 807)

America’s fears of Communism spiked in 1949 with the establishment of the
People’s Republic of China, thus making one of the largest nations in the world our
“ideological enemy” (Parkerson & Parkerson, 2001). The following year, 1950, fears
heightened again when the Soviet Union detonated its first nuclear device signaling the
end of the United State’s nuclear monopoly, and the civil conflict, which later became
the Korean War, broke out between communist North Korea and South Korea.

Domestically, Johnson (1997) reported that it was widely known in the 1930s and
1940s that Communist agents had penetrated various levels of government. The 1938
McCormack Act required foreign agents to register, while under the Hatch Act (1939)
and Smith Act (1940) members of organizations that advocated the overthrow of United
States government by force could be prosecuted. Later, in 1947, President Truman,
acting on the recommendation of the Temporary Commission of Employee Loyalty,
signed an Executive Order 9835, “which authorized inquiries into political beliefs and
associations of all federal employees” (p. 833).

In 1950, within this climate of fear and distrust,

…the junior Senator for Wisconsin, Joseph R. McCarthy, made a Lincoln Day
speech in Wheeling, West Virginia, in which he caused a sensation by waving a
piece of paper naming “all the men in the State Department” who were “active
members of the Communist Party and members of a spy ring.” He added: I have here in my hand a list of 205 – a list of names which were made known to the Secretary of State (Dean Acheson) ... and who nevertheless are still working and shaping policy in the State Department. (Johnson, 1997, p. 834)

Thus, began the era of McCarthyism in which suspected communists were increasingly hounded and blacklisted.

During this Cold War Era, local governments began investigating schools and imposing loyalty oaths as a condition of employment. In 1949, the NEA’s Tenure and Academic Freedom Committee reported that twenty-five states required teachers to take loyalty oaths. That same year, New York State passed the Feinberg Law, which linked teacher’s organizations to communism and stated directly that “subversive groups ... particularly the Communist Party and ... its affiliated organizations have infiltrated ... the public schools of the state.” Later, in 1953, forty Pennsylvania teachers were called before the House UnAmerican Activities Committee and were later suspended (Parkerson & Parkerson, 2001, p. 189).

Spring (2001) added that schools not only came under attack from the radical right, who linked the supposed decline in academic standards to communist infiltration of education, but also from a second group, largely composed of representatives from the academic community, claimed that public school educators were anti-intellectual.

Three of the most widely read reports pertaining to education during the Cold War era returned to the debate over the value differentiated and common curricula in a post World War II world. All three were published in 1945. The first, General Education in a Free Society, a Harvard University report initiated by James Conant,
argued for a common challenging course of study grounded in the liberal arts and intended to foster effective thinking and clear communication. In contrast to this point of view, Education for All American Youth, published by the Education Policy Commission, argued that only the 15 or 20% of students who would likely be going on to college should be encouraged to take a full complement of academic courses, while those students who were less able should focus their study on three areas: vocational efficiency, civic competence, and personal development. Largely agreeing with this point of view, Warner, Havighurst, and Loeb’s sociological study Who Shall Be Educated? argued further that

... schools should be used to increase the degree of social mobility only moderately. To try to do more than this, the authors maintained, would be to encourage more students to rise to the top of the social pyramid than could be accommodated by the status system. The authors thus called for a secondary school that would differentiate students according to measured ability, and that would use an experienced staff of guidance counselors to carry out a sorting function closely corresponding to society's vocational needs. (Tozer et al., 1993, p. 196)

Complicating this discussion further, Dr. Charles Prosser, a noted educator and early advocate of vocational education, argued that same year at a conference sponsored by the Vocational Education Division of the U. S. Office of Education that

... schools had failed to educate the majority of high school youth for the demands of modern life. Claiming that most students had spurned the traditional academic curriculum or had rejected vocational education, Prosser argued that
these students needed instruction in the practical arts of home and family life and civic competence. (Tozer et al., 1993, p. 198)

Thus was added a third voice to discussions of school curricula, that of the life adjustment educational movement.

Although life-adjustment educators intended to make schooling more relevant and "functional," many of the courses that appeared in school districts around the country in the half-decade after the war appeared to reflect a powerful anti-intellectual bias. In some school districts, entire instructional units were devoted to the etiquette of dating, and included discussion of such questions as "Do girls want to 'pet'?" and "Should you go in with a girl after a date (to raid the ice box)?" (Tozer et al., 1993, p. 198)

Tozer et al. (1993) state that these curricular changes resulted in a "torrent of articles and books" which "censured the public schools for lowering standards and in generally miseducating American youth" (p. 198). Two of the most influential and vocal critics of the life adjustment movement were Mortimer Smith, a former urban school board member and author of And Madly Teach: A Layman Looks at Public School Education (1949) and The Diminished Mind: A Study of Planned Mediocrity in Our Public Schools (1954), and noted historian Arthur Beston, who at the 1952 annual meeting of the American Historical Association delivered a paper titled "Anti-Intellectualism in Schools: A Challenge to Scholars." Both Smith and Beston believed that the primary purpose of schooling should be intellectual, and that all students could benefit from a "rigorous intellectual course of study."

Beston wanted the public schools to reject the traditional emphasis on
socialization and the social-sorting function of schooling. From his perspective, curricula should be organized around traditional subject matter disciplines. In the schools, he argues, “the important books must be read ... Fundamental problems must be studied, not merely talked about.” (Spring, 2001, p. 367)

In 1956, Beston and Smith formed the Council for Basic Education, whose original statement of purpose read in part, “that only by the maintenance of high academic standards can the ideal of democratic education be realized – the ideal of offering to all the children of all the people of the United States not merely an opportunity to attend school, but the privilege of receiving there the soundest education that is offered any place in the world” (cited in Tozer et al., 1993, p. 198).

Siding with Smith and Beston, another vocal critic of life adjustment education in the 1950s was Admiral Hyman Rickover. Rickover blamed professional educators for the anti-intellectual climate of America’s schools and described schools as the weakest link in America’s overall defense strategy. He argued that America schools were a failure, and “that the United States was losing the technological and military race with the Soviet Union because America’s public schools were failing to identify and adequately educate talented youth as future scientists and engineers” (Spring, 2001, p. 368). Tozer et al. (1993) stated further that

Although Rickover spoke of educating all children well, he focused attention on the 15 or 20 percent whom he regarded as academically talented. The future mathematicians, physicists, and linguists, he believed must be trained in homogeneous, European-style secondary schools, where academic standards would be maintained and sentimental attachments to the slow child would not
impede the main task at hand. Rickover not only rejected mixed-ability classes, he regarded the comprehensive high school as an unfortunate vestige of a less complicated era. Rickover envisioned a school system that would identify talented students at an early age and enroll them in accelerated educational programs. In the long run, he argued, this highly selective process would enhance American freedom by helping the United States keep pace with the Soviets. Rickover’s envisioned school system might slight the majority of students, but as Rickover reminded his readers, “The future belongs to the best educated nation. Let it be ours.” (p. 199)

During the late 1940s and 1950s, under this barrage of attacks, local schools, which were pressed for space and money due to the increasing number of children born during the baby-boom period following World War II, sought financial assistance from federal government, but legislators had refused to act. However, when the Soviet Union launched Sputnik I, on October 4, 1957, resistance to federal aid to education disappeared.

Alarmed that America was losing the Cold War, Rickover’s vision gained wider acceptance. In Oklahoma City on November 13, 1957, barely a month after the Soviet Union’s success, President Eisenhower gave a speech in which he stated, “...the Soviet Union had converted itself in only forty years from a nation of peasants to an industrial nation that had accomplished major technological achievements and established a rigorous education system.” Eisenhower continued by arguing that the United States must meet the Soviet threat by “outmatching the Soviet Union in military power, technological advancement, and specialized research and education” (Spring, 2001,
Two months after the Soviets launched Sputnik I, on January 27, 1958, Eisenhower delivered a special message to Congress in which he outlined his program of education for national defense. As a first step, he proposed a fivefold increase in appropriations for the educational activities of the National Science Foundation. He then called for reducing the waste of national talent by providing grants to states for improved testing programs and guidance services. Third, Eisenhower, requested money to improve the teaching of science and mathematics. Fourth, he called for a graduate fellowship program to prepare more college level teachers. Lastly, he called on funds to improve the teaching of foreign languages as a way of increasing the influence of the United States in developing countries.

Ultimately each of these recommendations was integrated into the National Defense Education Act in the form of categorical aid. Thereby, the NDEA became a means by which the federal government could control local educational policy simply by offering money for the establishment of specified educational programs. Local educators did not have to accept the federal money, but few refused because financial conditions in most school districts made them eager for the funds. (Spring, 2001, p. 370)

This use of categorical aid to states reflected the federal government’s distrust of professional educators and its desire to “take responsibility for establishing educational policies that would serve other national policies, such as defense” (p. 370).
Section IV: The War on Poverty

In the midst of this Cold War rhetoric and strident criticism over the soundness of America's system of public education, came the landmark, 1954, case of Brown v. Board of Education of Topeka in which school segregation was declared unconstitutional. The key legal issue of this case focused on the Fourteenth Amendment, which had been ratified shortly after the Civil War in 1868 and was intended to extend the basic guarantees of the Bill of Rights into areas under state and local control. The amendment reads in part:

No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the law. (as cited in LaMorte, 2002, p. 433)

Delivering the opinion of the Court, Chief Justice Warren summarized the case eloquently when he wrote:

We come then to the question presented: Does segregation of children in public schools solely on the basis of race, even though the physical facilities and other "tangible" factors may be equal, deprive the children of the minority group of equal educational opportunities? We believe that it does. (as cited in LaMorte, 2002, p. 282)

At the time, this decision was widely criticized on legalistic grounds because the Court set aside legal precedent and relied on sociological evidence to establish the negative effects of segregation. In this regard, the court was influenced by the work of
Gunnar Myrdal, a Swedish sociologist and economist, who in 1944 had published *An American Dilemma: The Negro Problem and Modern Democracy*. In this book Myrdal described a cycle of poverty among poor African Americans, and argued that "this cycle was a product of racial discrimination that had led to a segregated system of poorer schools for Blacks. This limited their access to good paying jobs and in turn had caused a lower standard of living that eventually led to fewer educational opportunities for the next generation" (Parkerson & Parkerson, 2001, p.190).

Influenced in part by this reasoning,

By the 1960s, it was commonly believed that discrimination and poverty were the two basic problems preventing the use of the schools as a means of discovering and classifying talent for service to the national economy and national defense.

Within this framework, school integration and the elimination of poverty were necessary to ensure unbiased development and selection of human talent.

(Spring, 2001, p. 371)

Myrdal's concept of a "cycle of poverty," was reiterated by Michael Harrington in his book *The Other America: Poverty in the United States*, which eventually captured the imagination of the Kennedy administration in the early 1960s and provided the conceptual framework for what would become the War on Poverty. According to Spring (2001), Harrington argued that

...within the circle of poverty, the poor get sick more often because of unhealthy living conditions in slums and inadequate nutrition. Inadequate medical care causes their illnesses to last longer, resulting in lost wages and work. Because of lost wages, the poor cannot afford adequate housing, education and medical care.
Harrington argues that there is a much richer way of describing this circle -- as a culture. The vicious circle of poverty has created its own cultural patterns. Its family structure is different from that of the rest of society -- it has more homes without fathers, early pregnancy, different attitudes toward sex, and less marriage. ...Harrington argues ... that the culture of poverty is beginning to perpetuate itself under the pressures of modern technology. As technology increases, so do educational requirements for occupations. As technological progress sweeps through the rest of society, the poor are increasingly left behind, and it becomes more difficult for them to move up in the social structure. Poverty is passed from generation to generation because of the increasing difficulty for children of the poor to receive adequate education and job training. (p. 372)

Inspired, in part by Harrington's work, President Kennedy decided to launch a massive federal program to attack unemployment and poverty and in 1962 had Walter Heller, the chairman of the Council of Economic Advisers, gather data on poverty. After Kennedy's death in 1963, President Johnson continued the mission, and in January 1964 Heller's report was included in The Annual Report of the Council of Economic Advisers as "The Problem of Poverty in America" (Spring, 2001). Heller's report identified education as central to attacking the culture of poverty stating:

Equality of opportunity is the American dream, and universal education our noblest pledge to realize it. But, for the children of the poor, education is a handicap race; many are too ill motivated at home to learn at school....

The report argued further that poverty is directly linked to education.

The chief reason for low rates of pay is low productivity, which in turn can reflect
lack of education, or training, physical and mental disability, or motivation. 

The importance of education as a factor in poverty is suggested by the fact that families headed by persons with no more than 8 years of education have an incidence rate of 37 percent. (as cited in Spring, 2001, p. 373)

That same month, President Johnson in his State of the Union Message to Congress stated, “this administration today, here and now, declares unconditional war on poverty in America” (as cited in Spring, 2001, p. 373).

Johnson’s War on Poverty began with the Economic Opportunity Act of 1964. This legislation was meant to address the problems associated with youth unemployment by providing urban and rural residential training centers and programs for work-training and work-study. A year later, Head Start was later developed under Title II of this legislation, which allowed for community action programs.

The following year, on April 11, 1965, President Johnson signed into law in a one room schoolhouse near Stonewall, Texas, the Elementary and Secondary Education Act of 1965. This legislation provided federal funding to improve educational programs for educationally deprived children, to provided financial assistance to school libraries, to promote local educational innovation, to encourage educational research and to strengthen state departments of education. Commenting on this legislation, Spring (2001) stated:

In general, the ESEA followed the tradition of federal involvement in education that had been evolving since World War II. The basic thread was planning for the use of human resources in the national economy. In the 1950s, under pressure from the technological and scientific race with the Soviet Union, emphasis had
been placed on channeling talented youth into higher education. In the early 1960s, the emphasis shifted to providing equality of opportunity as a means of utilizing the poor as human resources. (p. 375)

Supporting Spring’s view, Fowler (2000) argued that while the driving value behind the various educational movements of the 1960s and 1970s was equality, it was understood “as equality of opportunity to succeed in the Scientific Sorting Machine” (p. 339).

Whereas the scientific sorting function of schools had been implied rather than stated during the Kennedy and Johnson years, with the election of Richard Nixon in 1968 schools once again were viewed primarily as training facilities for the world of work. In a time of political and civil unrest marked by urban riots and campus protests, Nixon’s political values ran counter to the more liberal views of the Kennedy and Johnson administrations. He questioned the value of the War on Poverty and favored a “back to basics” (Spring 2001) education that prepared students for specific careers. Nixon and his commissioner of education, Sidney Marland, criticized general education programs for lacking specific goals that were linked to the job market, attributed much of the student social and political unrest to the fact that education was not relevant, meaning that it did not lead directly and specifically to career opportunities.

Marland argued that education should be meaningful; by meaningful, he meant “related to a career objective.” He stated, “When we use the word ‘meaningful,’ we imply a strong obligation that our young people complete the first 12 grades in such a fashion that they are ready either to enter into some form of higher education or to proceed immediately into satisfying and appropriate
employment." (as cited in Spring, 2001, p. 422)

Thus according to Spring (2001), Marland advocated the complete alignment of school and job market with all elements of school life ultimately justified by their contribution to career development.

Spring (2001) further stated that in 1971 and 1972, Sidney Marland, Jr., Nixon's Commissioner of Education, began to use discretionary funds provided by Congress to the Office of Education for the development of career education projects, while between 1970 and 1973 Nixon vetoed three appropriation bills for the Department of Health, Education and Welfare on the grounds that there was no evidence that federal money for compensatory education programs resulted in any significant social change. These actions in combination show career education, with its emphasis on the economic function of schooling, as a reform effort originating at the top of the political structure.

During the 1960s and 1970s as federal funding played an increasingly active role in shaping public school education, there was a countervailing movement to increase the level of direct community control of schools. Spring (2001) described this movement as an effort to "capture the nineteenth-century ideal of democratic localism, according to which the schools were to reflect the values and desires of their users" (p. 423). In urban areas where vital decisions were most often made by a combination of elite school board members, education administrators and teachers unions, the community members increasingly felt disenfranchised and that racism and discrimination were driving many school decisions. The community control movement wanted to shift control of local schools back to the local community. This proposal threatened the power of the professional educators, school boards, and teachers unions, who responded by arguing for
the need for professional decision making by experts and calling for greater accountability.

Citing Leon Lessinger’s (1970) book *Every Kid a Winner: Accountability in Education*, as an example, Spring (2001) noted that some proponents of accountability attacked the concept of democratic control by arguing that schools were much like hospitals, and while users of medical services had the right to complain, medical decisions were the responsibility of the medical expert. “For Lessinger, the idea of democratic control in surgery is ludicrous and dangerous to the patient” (p. 424). Likewise, since teaching is also based on a body of professional knowledge gained through research and study,

The average member of the community does not have the training necessary to make correct educational decisions. Like the hospital clientele, the community has the right to complain but does not have the right or the knowledge to make decisions regarding the resolution of complaints. Only the educational expert should be entrusted with decision-making power. (Spring, 2001, p. 424)

However, recognizing that in a democratic society schools must be responsive to the public, Lessinger believed that responsiveness could be achieved by requiring schools to report their successes and failures to the public, and

Envisions the creation of a national educational accounting firm operated by educational engineers who will measure educational results by the use of achievement tests and report results to the public. He assumes that these results will provide the public with expert data that can be used to express approval or criticism of the accomplishments of the school system. (Spring, 2001, p. 424)
During the early 1970s the accountability movement gained momentum and increasingly schools were required to publish achievement test results annually. Thus, The use of test scores to measure the schools' success kept power in the hands of educational experts ... testing, or measurement, was restored to a central place in the educational process... increasing (the) emphasis on behaviorism and on teaching by specific behavioral objectives. (Spring, 2001, p. 425)

Within this environment, the federal department of education was created when President Carter signed into law The Department of Education Organization Act on October 17, 1979. The first secretary of education was Shirley Hufstedler, and while the congressional debate leading up to the passage of the act had at times been contentious, her stated goals for the new department were largely uncontroversial.

One set of goals focused on streamlining and strengthening the political workings of the federal/state relationship; a second set reinforced the notion that the department would not supersede local control by attempting to impose restrictive regulations; a third set focused on issues of educational equity. Finally, Hufstedler sought to make education important to the nation again, and she committed to spending some time going “out on the stump” across the country “to elevate the consciousness of Americans about the good work classroom teachers do.” (Stallings, 2002, p. 678)

Section V: “A Nation at Risk” and Beyond

Carter’s successor, Ronald Reagan espousing the virtues of individualism, small government, and low taxes promised during his campaign to eliminate the newly formed
department, "which he saw as an intrusion on local and state control of education" (Stallings, 2002, p. 678). During his eight-year tenure, Reagan showed little interest in public education and introduced no significant legislation (Berlak, 2003). Stallings (2002) stated further that:

Reagan-era education policies were rooted in a desire to return to the original intent of the Founders. The new Administration planned to move the Department of Education away from awarding categorical grants and toward the awarding of block grants, with the goal of eventually eliminating federal grants entirely, which would cause the federal role to revert to what it had been in 1838 – nothing more than collecting statistics. ...by the end of the Reagan Administration, many federal programs, including Title I, had taken heavy budget cuts, and funding for block grants for special programs had been reduced by 28% over the eight-year period. (p. 678)

Despite the intention of the Reagan Administration to reduce the federal impact on education and return it to local control, Berlak (2003) argued that it was during this administration that the movement for centralized control and national testing was launched, when, with nominal support by Reagan, then Secretary of Education, Terrel Bell, established the "National Commission on Excellence in Education."

This eighteen member commission, composed mostly of educators and academics, published their findings in the historic 1983 publication "A Nation at Risk."

Presented in vivid language peppered with military metaphors, this twenty-nine page report identified schools as the cause of America's economic shortcomings and by implication the reason for the severe economic recession the country was experiencing at
the time. In its opening paragraph the report stated:

Our Nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world.... The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. ... If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. (National Commission on Excellence in Education, 1983, p.1)

Further describing this risk the report stated:

The risk is not only that the Japanese make automobiles more efficiently than Americans .... It is not just that the South Koreans recently built the world's most efficient steel mill, or that American machine tools, once the pride of the world, are being displaced by German products. It is also that these developments signify a redistribution of trained capability throughout the globe. Knowledge, learning, information, and skilled intelligence are the new raw materials of international commerce and are today spreading throughout the world as vigorously as miracle drugs, synthetic fertilizers, and blue jeans did earlier. If only to keep and improve on the slim competitive edge we still retain in world markets, we must dedicate ourselves to the reform of our educational system for the benefit of all-old and young alike, affluent and poor, majority and minority. Learning is the indispensable investment required for success in the "information age" we are entering. (National Commission on Excellence in Education, 1983,
The report continues by stating that the reason for this sorry state is that educational institutions have lost sight of the basic purposes of schooling, and that All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment, and to manage their own lives, thereby serving not only their own interests but also the progress of society itself. (National Commission on Excellence in Education, 1983, p.3)

By linking education and the economy, "A Nation at Risk" ensured that education would continue to be a national issue well into the future, and one that would be closely tied to national business interests. These strong ties between business and public education were made explicit in a report published that same year by the Task Force on Education for Economic Growth, "Action for Excellence," which in its introduction stated:

We believe especially that businesses, in their role as employers, should be much more deeply involved in the process of setting goals for education in America and in helping our schools to reach those goals. (as cited in Spring, 2001, p. 431)

And later added, "If the business community gets more involved in both the design and the delivery of education, we are going to become more competitive as an economy" (as cited in Spring, 2001, p. 432).

Reagan's vice president, George H. W. Bush campaigned as the "Education
President" and was elected in 1988. In September 1989, Bush’s secretary of Education, Lamar Alexander assembled the first national "Education Summit" in Charlottesville, Virginia. The summit was co-sponsored by the National Governors Association and co-chaired by then governor William Clinton. Following the recommendation from “Action for Excellence” for closer ties between business and education, participants included state and federal legislators, chief state education officers, and several CEOs of major corporations who were also among the leaders of the Business Roundtable. Berlak (2003) noted that earlier that same year, both the Business Roundtable and the National Governor’s Association had taken positions which had called for reforming public schools using standardized curriculum content standards tied to centralized testing and sanctions, a position ultimately taken by the majority at the Summit. By 1990, the group had developed a list of six national education goals for the year 2000, and on April 18, 1991, Bush unveiled plans for achieving national education goals by the year 2000.

In addition to the six goals established by the NGA, America 2000 recommended merit pay and alternative paths to certification for teachers, a longer school year, improved adult literacy programs, national standards in core subjects and voluntary achievement tests to measure progress in those subjects, and the creation of the New America Schools Development Corporation. (Stallings, 2002, p. 680)

While the America 2000 plan died in the Congress in 1992, a key provision of Bush’s initial proposal, The New American Schools Development Corporation (NASDC), a private, nonprofit corporation, funded by private corporations in cooperation with the federal government was founded on July 8, 1991 (Stallings, 2002). Based on the
assumption that business was best able to plan an educational system that would improve the American workforce to meet the needs of the economy, its eighteen member board was made up of

Twelve heads of major corporations, including Nabisco, the Boeing Company, AT&T, B.F. Goodrich, and the Exxon Corporation. In addition, there are two politicians, two publishers, and the commissioner of the National Football league. The only educator on the board is Joan Cooney, chairman of the executive committee of the Children's Television Workshop. (Spring, 2001, p. 433)

The goal of the NASDC was to develop 535 New American Schools -- one in each congressional district and two more for each state.

Bill Clinton succeeded George Bush in 1992; and despite their widely differing political philosophies, President Clinton continued to support and sponsor legislation that perpetuated the course set during the previous Reagan and Bush administrations. The result was Goals 2000. Based largely on the work begun at the 1989 the governors’ “Education Summit” in Charlottesville, Virginia, of which Clinton was a co-chair, the purpose of Goals 2000 was threefold;

...to promote the achievement of the national education goals by the year 2000; to raise --with the aid of high standards -- expectations for parents, teachers, and students; and to give state and local reform efforts greater flexibility and more support. (Stallings, 2002, p. 681)

Spring (2001) argued that the Goals 2000 Education Act, which was signed into law on March 31, 1994, “again linked education to the needs of big business by emphasizing the importance of educating workers for competition in international trade”
Stallings (2002) stated further that "Goals 2000 marked a major shift in federal education policy toward a focus on outcomes and accountability" (p. 681).

Later that same year the Elementary and Secondary Education Act (ESEA) was reauthorized as the Improving America's Schools Act (IASA). This act which included sweeping changes once again moved federal concerns away from regulation and towards increased accountability as well as greater flexibility in the use of funds (Stallings, 2002). IASA mandated that challenging standards apply to all students. States were required to develop content and performance standards, as well as to adopt annual assessments that measure student progress against those standards. Furthermore, schools that received Title I funding were required to demonstrate adequate yearly progress that was "continuous and substantial" and that linked progress to performance on assessments (however, it was left up to the states to define adequate yearly progress goals). States were required to provide assistance to local districts to help them comply with the law. Districts were required to identify schools in need of improvement and were given the authority to take corrective action (Sunderman & Kim, 2004).

Also in 1994, President Clinton signed into law the School-to-Work Opportunity Act, which provided a combination of school-based and work-based technical education for students who planned to enter the workforce immediately after high school. The School-to-Work act linked education and employment. It provided support for school-based career exploration, the creation of programs of study that integrated academic and vocational education, and paid on-the-job training experiences. At the signing ceremony, Robert Reich, Clinton's Secretary of Labor argued:

There should not be a barrier between education and work. We're talking about a
new economy in which lifelong learning is a necessity for every single member of the American workforce. (Spring, 2001, p. 434)

In 2001 Republicans retook the White House with the election of George W. Bush, who at the time called education the most important item on his agenda. In support of this claim “Bush’s first education budget called for an increase over the final budget established by the Clinton White House, which already included the largest single-year increase in education funding” (Stallings, 2002, p. 681). Also, in 2001 ESEA was reauthorized as the No Child Left Behind Act (2001), which required

... that all states develop “challenging state standards” that would be measured annually by state tests, which would in turn be measured against a national benchmark test. In exchange for these stronger accountability standards states and localities would be granted greater spending flexibility, a proposal first floated at the NGA meeting in Charlottesville. (Stallings, 2002, p. 682)

Sunderman and Kim (2004) argued that the No Child Left Behind Act represented a significant departure from history both in terms of its requirements and its sponsors.

It requires specific large changes in the basic assessment system of states, sets requirements for education progress in two specific subjects only, contains unusual and large sanctions, and commands many forms of specific state action. It clearly moves to the very heart of the educational process. When the fate of schools and faculties rests solely on achieving a nationally specified rate of progress on two tests, those tests will drive curriculum and instruction in the schools that are clearly at risk, and in this way, the federal mandates control the center of the educational process. (p. 4)
Sunderman & Kim (2004) argued further that

Another highly unusual factor in the No Child Left Behind legislation was that school officials and experts on educational reform were largely excluded from the process of designing the law. Traditionally educational leaders have been highly influential at both the federal and state level in making education policy.

Beginning in the 1980s, conservatives developed more and more biting critiques of the public schools and their leaders and supporters. They claimed that schools were failing because officials and teachers did not care enough and had to be disciplined by an external force which would expose their records, hold them accountable, label their failures, and create interventions. This critique, believed by many, facilitated the exclusion of educators from the federal legislative process. (p. 6)

In addition Sunderman and Kim (2004) noted that No Child Left Behind (2001) “altered the distribution of power among federal, state, and local officials by expanding federal power to regulate education” (p. 6). They observed that while many of the provisions of NCLB were contained in a less developed way in IASA, No Child Left Behind (2001)

...imposes strict timelines for improving the achievement of disadvantaged students and mandates specific sanctions for schools not performing well. In contrast to IASA, states must adhere to federally determined timelines for identifying failing schools and improving student achievement, establishing adequate yearly progress goals, and ensuring teacher quality. States must also establish performance standards and define adequate yearly progress goals to
ensure that all students, including major demographic subgroups, reach
“proficiency” within 12 years. ... Schools failing to make adequate yearly
progress targets for any subgroup for two consecutive years will be identified as
“in need of improvement” and thus, subject to a series of sanctions, ranging from
public school choice to school reconstitution. Sanctions are no longer at the
discretion of local districts. Moreover, through the use of sanctions, NCLB
introduces the idea of exit from the public schools and the transfer of money away
from poorly performing schools... (p. 17)

Under these conditions, Sunderman and Kim (2004) argued that NCLB
dramatically alters the relationship between state and federal governments by expanding
the role of the federal government into domains, which have historically been under state
control. The federal government, through NCLB, now decides what constitutes a failing
school and what should be done about it. It dictates the pace of change by setting
timelines for implementation and school improvement. Furthermore, NCLB challenges
traditional education governance arrangements.

By directing federal funds to state education agencies, it gives them the authority
to administer the federally funded programs without necessarily consulting with
elected officials and to make commitments with the federal government without
considering how their decisions might affect state policy and state budgets.
(p. 18)

Lastly, by delegating accountability responsibilities to
state educational agencies, No Child Left Behind (2001) gives them authority over local
school boards to define what constitutes an adequate education.
Section VI: Education Quality in Post-industrial America

While it was argued in the previous chapter that the meaning of education quality shifted after the American Revolution as a result of a change in the popular understanding of the function of education, a review of the historical events and discourse following the Industrial Revolution showed that education quality was significantly affected by two factors. First, as happened following the American Revolution, common agreement regarding the function of education changed, and secondly there was also a simultaneous change in the underlying definition of quality as it applied to education.

With regards to the function of education, a review of historical evidence showed that around 1906 popular expectations regarding the function of school underwent a sudden and discontinuous shift of the kind that might be predicted by Kuhn’s theory of paradigm shifts. Whereas prior to 1900 there was little support for public education to provide specific occupational training, as the Industrial Revolution spread, it also affected conventional thinking about the function of education. By 1906 public sentiment favored a differentiated curriculum as a way to maximize the social efficiency through specialization, in the same way that “job fractions” or “basic work units” were used to maximize industrial efficiency.

While Cohen (1968) and Spring (2001) identified different precipitating events which led to this change, they agree that the change was primarily influenced by contemporary economic conditions which transformed schools from a place where children were prepared to assume roles as citizens in a democracy, into the “great sorting machine” where children were selected and trained for future occupations. Consistent
with this view that schooling was now primarily economically motivated, the research of Walters et al. (1990) demonstrated that the availability of schooling during this period was determined largely by the economic needs of the local elite. Thus, since at the time most work was related to manufacturing, in the view of William Bagley, a well-known educator of the period, the primary role of the school was to instill good industrial habits of the type needed on the assembly line.

Consistent with this view of schools as training facilities to prepare youth for their future place in the world of work, instruction was based on the behavioral, stimulus-response, training model in which outcomes were predetermined and lessons, based on task analysis, followed a scope and sequence much like the time and motion studies advocated by "scientific management" theory. Further influenced by "scientific management" theory, the public education system not only adopted the top-down management by experts style that dominated business but standardization and cost-effectiveness became the buzzwords that shaped the thinking of school administrators as they worked to efficiently sort and prepare students to their future roles in the world of work.

For more than 70 years, through the economic disaster of the Great Depression and the prosperity that followed World War II, the national security scare of the Cold War, Presidents Kennedy and Johnson's War on Poverty, beyond the findings of "A Nation at Risk" to the current reauthorization of the 1965 Elementary and Secondary Education Act, and No Child Left Behind (2001), education has been widely accepted as the social institution responsible for sorting and training youth to work in future occupations that will best serve the needs of the nation as determined by those who
exercise the most power and influence at any given point in time. During the Cold War years, this meant to sort and train engineers, scientists, and linguists. During the War on Poverty, it meant providing disadvantaged youth equal access to the sorting machine, so that the cycle of poverty could be broken. Finally, in 1983 the landmark publication, "A Nation at Risk," locked the nation on a course that would ensure that education and national business interests would be tied well into the future.

Knowledge, learning, information and skilled intelligence are the raw materials of international commerce ....if only to keep and improve on the slim competitive edge we still retain in world markets, we must dedicate ourselves to the reform of our educational system for the benefit of all. (National Commission on Excellence in Education, 1993, p. 2)

As this summary of events has shown, shortly after the turn of the 20th century, the function of education shifted from ensuring internal political stability and social cohesion to being concerned primarily with goals related to employment and international competitiveness. Moreover, during this period, the underlying definition of quality as it was applied to education also underwent significant change. Whereas in both colonial and post-revolutionary America education quality was based on a quality-as-value definition, over the course of the 20th century education quality was increasingly associated with the most commonly used production model of quality, quality as conformance to specification or standards.

Consistent with the experience of American industry during the quality assurance era, education governance has become more centralized and increasingly concerned with command and control as the federal government has increasingly exerted a greater
influence over education by assuming responsibilities which had historically been relegated to state and local authorities. In 1994, the Goals 2000 Education Act emphasized the importance of educating workers and linked the needs of big business with national educational goals. This legislation also marked a major federal education policy shift toward a focus on outcomes and accountability (Stallings, 2002). Later, that same year, with the signing of the Improving America’s Schools Act, states were required to develop content and performance standards, as well as to adopt annual assessments that measured student progress. Moreover, schools that received Title I funding were required to demonstrate adequate yearly progress that was “continuous and substantial.” The federal government also required states to provide assistance to local districts to help them comply with the law. At the local level, the federal government required districts to identify schools in need of improvement and were given the authority to take corrective action.

In 2001, when ESEA was again reauthorized as the No Child Left Behind Act (NCLB), (2001), the federal government further encroached on what had previously been state and local education responsibilities. Under the No Child Left Behind Act (2001), the federal government now decides what constitutes a failing school and what should be done about it. It dictates the pace of change by setting timelines for implementation and school improvement. By directing federal funds directly to state agencies, it circumvents elected officials at both the state and local levels. NCLB further centralizes education policy making at the state level by delegating accountability responsibilities to state educational agencies over local school boards to define what constitutes an adequate education (Sunderman & Kim, 2004).
Given this history, it can be reasonably argued that since the Industrial Revolution education quality has once again been redefined. Whereas in colonial America education quality was gauged by religious outcomes, and in post-revolutionary America, during the common school era, the primary responsibility of schools was to ensure political stability, since the Industrial Revolution schools have been viewed as occupational sorting and training facilities. In addition, while education quality was widely understood during earlier periods as an informal value judgment regarding an educational outcome, since the Industrial Revolution education quality is increasingly understood and discussed within a quality assurance framework whereby education quality is defined as conformance to specifications or standards. Using this model, once education performance standards have been established, any failure to meet these standards results in a lowering of education quality.

Bearing in mind that today the function of education is widely accepted to be the sorting and training of youth for those occupations that will best serve the needs of the nation in the future. Reliance on a conformance to standards model of education quality rests on the assumption that policy makers at the federal and state levels have the means to identify specific standards that can measure how well today’s schools are preparing students to meet the future employment needs of the United States.
CHAPTER 6

American Education in an Information Age

Continuing to build on the hypothesis that under revolutionary pressure the function of education changes and thus by extension so to does education quality, this chapter considers the effects of the Information Revolution. Like previous chapters, this chapter is guided by the following fundamental questions: Did the function of education in America change noticeably as a result of the Information Revolution as Kuhn’s (1996) theory of paradigm shifts would suggest? Secondly, if the function of education did change, how was education quality redefined? And lastly, is the current understanding of education quality supported by the quality literature reviewed in chapter two?

To begin this investigation, Section I defines the Information Revolution, discussing its stages and its contribution to the knowledge society. Section II investigates competing views of knowledge as it applies to education. Section III discusses the current dominant model of education quality, conformance to standards. Section IV presents an alternative service-based model of education quality. Section V is a concluding statement regarding the findings of this historical investigation of education quality. Lastly, Section VI discusses areas of future research.
Section I: The Information Revolution

Hundley, Anderson, Bikson, & Neu (2003) noted that the current “information revolution” is not the first, that the invention of movable type and increased availability of machine-made books contributed to a significant shift in power, as books were no longer produced solely in monasteries and written only in Latin. Under this pressure, Christian revelations and dogma ceased to be the ultimate standard by which all thought was compared. As vernacular editions appeared throughout Europe in English, French, Italian, Dutch, Spanish and German, information became available to new audiences. Knowledge became increasingly public, and as Latin, the international language of the learned community, was “displaced by national and regional languages, knowledge tended to become national and regional” (Boorstin, 1983, p. 517). This process eroded the central power of the Church and contributed to a new fundamental reconceptualization of reality based upon human rationality rather than church authority.

Today, the changes brought about by the rapid development and spread of information technology is called the “Information Revolution” (Hundley et al., 2003). These researchers further observed the effects of the Information Revolution are often commingled and inexorably linked with those of globalization,

... the rapid advance in cross-border integration in many areas of economic and other human activates that has been ongoing for sometime, facilitated by advances in transportation systems and communication systems and by the elimination of regulatory barriers to the movement of money, goods, services, and people.

(Hundley et al., 2003, p. 4)

To dramatize the speed with which information technology is spreading across the
world Gu (2001) stated:

While for the telephone to reach 50 million users it took a time close to 75 years, the World Wide Web (WWW) took only four years to the same number. In 1990, just over twenty countries entered in Internet access, now more than 200 countries have become Internet connected and altogether Internet users exceed 200 million. By the end of 2000 China has 22 million Internet users, that is increased from the much lower number of 1,000 in 1996. (p. 3)

In his discussion of the “Information Revolution,” Miles (2000) argued that the development and spread of information technology has gone through four phases, which can be roughly identified with the decades from 1970 to the present. These phases were characterized largely by the degree and quality of connectivity provided by the information technology of the period. Miles calls the first phase, dating until the late 1970s, “Islands,” to signify that the information technology of this period was rare, had limited applications and were detached from one another. This was a time when Telephone and television use was widespread, but phones were used almost entirely for speech … and were far from portable (indeed, in many places they were not even unpluggable!). Telephone exchanges operated on electromechanical or even mechanical principles. Televisions – and especially radios – were moving from being valve-based to being transistorized. (Miles, 2000, p. 11)

Computers were “remote artifacts, encountered by very few people” (Miles, 2000, p. 11). They were used mostly for large-scale administrative and financial data processing, process control systems in power stations and chemical plants, and for
scientific computation and analysis. High levels of expertise were needed to operate these computers, and the user had to go to a dedicated computer room or make use of a “dummy” terminal attached remotely to the mainframe computer.

Toward the end of the 1970s, computers appeared as assembly kits for hobbyists. After the development of VisiCalc, an early spreadsheet application, microcomputers attracted the attention of many company accountants and financial analysts. “The result was a diffus ion of early microcomputers into offices, often without the knowledge let alone the blessing of the heads of data processing (DP) departments” (Miles, 2000, p. 11). During this time, there was also a growing sense among academics and media commentators that microelectronics represented something profound. The terms “information society” and “micro-revolution” came into being. Some feared that this new form of automation would lead to widespread unemployment.

...politicians were alerted to the possibility that a new industrial revolution would shortly be underway, and that their national IT industries and the prospective users of new IT, would both need support for their countries to remain competitive. (Miles, 2000, p. 12)

In the 1980s information technology and its environment changed dramatically. Miles (2000) described this second phase of the “information revolution” as being like an archipelago “to signify that there are now a great many islands of IT use, of varying size and shape, but still generally isolated one from another” (p. 15). During this decade a wide array of microelectronics was rapidly being introduced, microcomputers became progressively more powerful and less expensive. On-line information systems aimed at mass audiences were first introduced. Japan was flexing its economic muscle. It was no
longer simply a "low-end imitator of cheap Western goods" and its vision of assuming
"technological leadership in future generations of computing and communications sent a
shock round the world" (p. 13). Domestically, there was initially widespread fear that
new technologies would be used to "deskill" work as jobs with higher functions being
performed by the new equipment. However, experience showed that information
technology was rarely associated with large job losses "and if anything it was more often
associated with demand for new skills ... rather than deskilling" (p. 15). With the
increased decentralization of data processing capability, the idea that large segments of
the workforce might soon be working out of their homes or from local telecottages
became popular.

Miles (2000) described the decade of the 1990s as the continent, "since in this
period the islands of automation ... are increasingly linked by networks" (p. 17). The
continent "is populated by devices of more and more sorts -- not only mainframes and
PCs, but also mobile devices of all kinds -- especially laptop and handheld computers and
personal digital assistants, and digital mobile telephones" (p. 17). All of which are
increasingly networked in "cyberspace ... a new arena of social relationships established
by networking" (p. 18).

Projecting into the future, Miles (2000) anticipates break-throughs in artificial
intelligence and speech recognition, which when combined with already existing
information technology, will form the fourth phase of the Information Revolution -- the
ecosystem, where information technology is ubiquitous. Where the fact that individuals
own and often carry multiple devices, and information technology is accepted as part of
the environment.
Some (Hundley et al., 2003) estimate that the exponential growth in computing power that marked the earlier decades will continue for at least another 10 or 15 years, reaching the limits of silicon technology by about 2015. The speed at which this technological capability will result in actual change and innovation within a given environment depends on the degree to which the inhabitants of that environment can tolerate “creative destruction” – the perpetual cycle of destroying older and less efficient products or services and replacing them with new, more-efficient ones.

Ultimately an organization or society’s tolerance for creative destruction depends upon a wide range of institutional factors including: embedded social norms, legal codes and shared histories. Within countries, Hundley et al. (2003) stated that

IT diffusion generally exacerbates disparities and reinforces social cleavages, at least until saturation has been achieved.... Those who have connectivity can expand their social networks and can do so in location-independent ways, enabling them to take advantage of both strong and weak social ties. Further, connectivity also may also enhance factionalism, that is, individuals with very narrowly defined interests can find like-minded other somewhere in the wired world. Moreover, the polarization between the advantaged and the poor is made more acute because of its visibility in the information society. (p. 46)

Concurrent with the spread of the “Information Revolution” is the emergence of the global knowledge economy, which was described by the World Bank (2003) as an economy which

...relies primarily on the use of ideas rather than physical abilities and on the application of technology rather than the transformation of raw materials or the
exploitation of cheap labor. It is an economy in which knowledge is created, acquired, transmitted and used more effectively by individuals, enterprises, organizations and communities to promote economic and social development.

(p. 1)

Within this economic environment, Hundley et al. (2003) argued that the organizational structure of business is changing from vertical integration to horizontal networks. Moreover, companies are coupling more tightly to both suppliers and customers. In combination, these two factors are speeding up business information cycles and decision processes, "rendering companies that undergo these changes much more responsive to changing competitive situations and customer needs, with products and services tailored to and differentiated for small groups of customers – and often individual customers" (p. 26).

The Information Revolution is enabling new business models that are transforming the world of work. Information technology has helped create a business environment where customer needs and expectations are the primary drivers of development and progress. In today's business environment, a company's decisions are based on information from the customer's world, not the company's internal world, "and the entire product cycle ... is closely integrated and much more quickly responsive to market changes than hitherto, leading to what some have termed real-time, event-driven business enterprises" (p. 25). This has allowed companies to customize products and services for small groups of customers. Lastly, companies, no matter what their size, increasingly see themselves as operating on a global stage with regard to their suppliers and vendors, customers, and competitors, as well as the location of their design,
development, production, marketing and sales operations.

Under these rapidly changing economic and business conditions, the nature of the workforce is changing. Blue-collar workers are being replaced by information specialists called “knowledge workers” whom various researchers have described as “workers who can think, work with ideas and make decisions (Shea 1998) … people who can analyze, synthesize, and evaluate information and use that information to solve problems of variable content … people who are highly educated, creative, computer literate, and have portable skills that make it possible for them to move anywhere their intelligence, talent and services are needed (Munk as cited in Brown, 1999, p. 1).

Knowledge workers use their intellect to convert their ideas into products, services, or processes (Miller 1998) … Their main value to an organization is their ability to gather and analyze information and make decisions that will benefit the company. They are able to work collaboratively with and learn from each other, they are willing to take risks, expecting to learn from their mistakes rather than be criticized for them (Rogoski 1999). Knowledge workers are continually learning, aware that knowledge has a limited shelf life (Allee, 1997). (Brown, 1999, p. 1)

Where as in traditional job settings, employees were required to learn to perform routine functions, which for the most part, remained constant over time, in a knowledge economy change is so rapid that workers constantly need to acquire new skills.

According to Reychen and Salganik (as cited in World Bank 2003) for a worker to function successfully in a knowledge economy three categories of competencies are key.

1. Acting autonomously: Building and exercising a sense of self, making choices
and acting in the context of a larger picture, being oriented toward the future, being aware of the environment, understanding how one fits in, exercising one's rights and responsibilities, determining in and executing a life plan, and planning and carrying out personal projects.

2. *Using tools interactively:* Using tools as instruments for an active dialogue; being aware of and responding to the potential of new tools; and being able to use language, text, symbols, information and knowledge, and technology interactively to accomplish goals.

3. *Functioning in socially heterogeneous groups:* Being able to interact effectively with other people, including those from different backgrounds; recognizing the social embeddedness of individuals; creating social capital; and being able to relate well to other, cooperate, and manage and resolve conflict. (World Bank, 2003, p. 21)

With the advancement of the Information Revolution, knowledge workers are becoming an ever-increasing fraction of economic activity and the overall workforce. Hundley et al. (2003) expected this trend to continue into the long-term future. “As a result, engendering, retaining, and nurturing intellectual resources – in particular, the sets of competencies related to production and use of knowledge – will be critical to global economic competitiveness” (p. 47).

While recognizing that the introduction and spread of information technology has contributed to rapid change as well as social, political, and economic stress; and because these changes continue to be largely understood and described using paradigms associated with the Industrial Revolution, based on Kuhn's (1996) theory of paradigm
shifts, this period would more reasonably be considered a period of normal development following the Industrial Revolution rather than a new revolutionary period. What media commentators have called the Information Revolution was a period of rapid technological advancement, rather than a time defined by a discontinuous shift in the underlying conceptual framework that provided meaningfulness to reality. From the earliest days of what the Information Revolution in the 1970s into the 21st century, advances in information technology continue to be largely understood and explained by conceptual frameworks that existed during the 1950s or 60s. The introduction, development, and spread of information technology has never resulted in a crisis of understanding that rendered the old paradigms of the Industrial Revolution inadequate. Rather the effects of the new technology were integrated into and explained by already exiting business, social and economic models.

While the social, political, and cultural ramifications associated with information technology are recognized and discussed, these effects are most often framed within an economic context. This tendency to focus first and foremost on the economic effects of the rapid expansion of information technology can be seen in discussions of the digital divide, which largely reflects a concern for the disparities between the haves and the have-nots and largely restates arguments from the 1960s and the Johnson and Kennedy administrations’ War on Poverty concerning the challenge of providing equal opportunity to the disadvantaged.

During the 1970s and 1980s as America’s economy shifted from being primarily a manufacturing–based economy to being a service-based knowledge-driven economy, the essential job related tools and skills changed from manufacturing technology to
information technology. Yet even with this technological transition, the goal remained to maximize human capital and thus the function of education has continued to be focused on training youth to enter the job market.

In a knowledge-based economy, which puts a premium on ideas and the application of technology over the transformation of raw materials,

Educated workers have a comparative advantage with respect to adjustment to, and implementation of, new technologies (Bartel and Lichtenber 1987, 1988). Because better-educated workers usually have a broader set of basic skills, it is easier for them to assimilate new knowledge, and their earnings rise more quickly than those with lower educational levels. Better-educated people are also better able to deal with economic disequilibria (Schultz 1975). Firms undergoing rapid technological change want to employ better-educated and more talented workers, in whom they are also more willing to invest in training and retraining. Thus the more volatile the state of technology, the more productive education is. (Nelson and Phelps 1966; Welch 1970) (World Bank, 2003, p. 12)

Moreover,

... the working world is no longer looking for "industrial workers." Employers of tomorrow likely will place a much higher value on listening and communication skills, on collaborative learning capabilities, and on critical thinking and systems skills – because most work is increasingly interdependent, dynamic and global. (Senge et al., 2000, p. 51)

Given these demands, Work Bank researchers (2003) state, "Education can no longer emphasize task-specific skills but must focus instead on developing learners’
decision making and problem-solving skills and teaching them how to learn on their own and with others” (p. 3). Furthermore, “They must raise the level of learners’ achievement in the basic skills of language, math, and science. They must equip learners with new skills and competencies. And they must do all this for more learners with different backgrounds, experiences, levels of motivation, and preferences” (p. 21).

Pressed by challenges imposed by the rapid spread of information technology and globalization there is widespread agreement of (Bennett, Finn & Cribb, 1999; Dunn, 2001; Fullan, 2001; Hirsh, 1996; Hundley et al., 2003; Miles, 2000; Ravitch, 1985; Senge et al., 2000; World Bank, 2003) that America’s education system must undergo fundamental change. However, there is no consensus regarding what specifically needs to change and why.

Section II: Competing Views of Knowledge

Competing views are largely differentiated by opposing beliefs over what constitutes knowledge. One camp continued in the tradition of early 20th century constructivists like Dewey and Kilpatrick arguing that knowledge is process, while another group, represented by thinkers like William Bennett, E.D. Hirsh and Diane Ravitch, argued that knowledge is content.

Proponents of the "knowledge as process" view largely agreed with Senge et al. (2000) that today's education system is based on the assumption that learning is a "purely intellectual affair" where "book-learning and lectures reign supreme" (p. 37). This approach leads to a stagnant learning environment where "students are receivers -- mostly of facts and predetermined answers to set puzzles." "Knowledge is treated as a
thing – objectified, disconnected from other forms of knowledge and from the knower” (p. 37). If the goal of education is to convey information, some would argue that the same results could be achieved by giving every child a Palm Pilot or a copy of Encarta. (Gardener in Senge et. al., 2000)

Others like Fritjof Capra, (cited in Senge et. al., 2000) argued that equating information and knowledge has dangerous ramifications for understanding and meaningfulness. Information is “a quantity, name or short statement that we have abstracted from a whole network of relationships – a context, in which (the information) is embedded and which give it meaning. We are so used to the abstraction that we tend to believe that meaning resides in the pieces of information rather than in the context from which it has been abstracted” (p. 21).

Recognizing that at its most fundamental level, education is a mind-altering experience, Eisner (2000) argued that decisions about “what will be accessible to children help shape the mind they will come to own” (p. 248). At a more subtle level he also noted that how information is conveyed, or represented, influences both the product and the process of thinking. Thus, the form of representation used to present information influences not only what can be communicated, but also what can be understood.

...people look for what they know how to find, and what they know how to find is often related to what they know how to do. When what one knows is how to measure, one looks for what one can measure. If the only tool you have is a hammer, you treat almost everything as if it were a nail. Tools are not neutral (p. 251)

Based on this premise, Eisner (2000) observed further.
In order to read a poem, an equation, a painting, a dance, a novel, or a contract each requires a distinctive form of literacy, when literacy means, as I intend it to mean, a way of conveying meaning through and recovering meaning from the form of representation in which it appears. (p. 253)

Since each form of literacy has the capacity to provide an individual with unique forms of meaning, in a rapidly changing global environment where decision making and problem solving are valued,

... the mission of schools is decidedly not to bring everyone to the same place but rather to increase the variance in performance among students while escalating the mean for all. The reason I believe that this is an important aim for schools in a democracy is that the cultivation of cognitive diversity is a way of creating citizens who are better able to contribute uniquely to the commonwealth. (p. 252)

Complementing Fullan's (2001) assertion that information only has value in a social context, Eisner (2000) seemed to capture the sentiment of many of the "knowledge as process" proponents when he lamented.

It is unfortunate that the resource-rich environments that characterize good preschools and kindergartens are typically neutralized as young children move up into the grades. We would do better, I believe, to push the best features of kindergarten upward into the grades than to push the grades into kindergarten. (p. 252)

Proponents of "knowledge as process" argued further that in today's rapidly changing world the historic separate subject approach to schooling is outmoded. As Howard Gardner explained in an interview with Peter Senge, "Disciplines are historical
inventions and they change. They change so quickly now that you get breathless. Half the Nobel Prizes in the hard sciences are given to people who work in domains that didn’t exist when they were students” (cited in Senge et al., 2000, p. 559).

In stark opposition to Gardner’s view, advocates for the “knowledge as content” believed that knowledge is an organized body of facts and concepts, and that

... the purpose of education is to accept the discipline of knowledge that have been created in the past and devise ways of helping learners acquire as much of these disciplines of knowledge as they can. (Parkay & Hass, 2000, p. 219)

More specifically, proponents of the “knowledge as content” position argued that

Each discipline has a deep, inherent structure and that curricular content should be presented in a form that enables students to comprehend this structure.... To comprehend the structural framework on which a discipline is build provides efficient access to the wide range of knowledge within that discipline. Bits and pieces of information fit together and make sense when they are viewed through the lenses of, and in relation to, the structure of the discipline. Thus, the intent is to select content that brings the structure into full view and reinforces it.

(Schubert, as cited in Parkay & Hass 2000, p. 219)

Based upon this understanding of knowledge, “knowledge as content” advocates see America’s education system as sorely lacking and ill equipped to prepare students for the demands of a knowledge-based economy. Rod Paige (2000), the current Secretary of Education, stated that our education system is presently failing too many students. As evidence of this failure to provide basic academic training, Secretary Paige cited results from the National Assessment of Educational Progress (NAEP) test administered in 2000,
which showed that only 32% of fourth graders were reading proficiently. Supporting Secretary Paige’s position, Gross (1999) noted that 1998 NAEP results showed that two out of three 17 year olds did not know the meaning of Abraham Lincoln’s Emancipation Proclamation, and that the majority of high school students could not figure out that a shadow cast by the rising sun would fall to the west.

Moreover, these and other writers (Archbald, 2001; Gratz, 2000) argued that the current system of education in America perpetuates inequities among social classes and ethnic groups. What we have is

... a vast sorting system based largely on social class and racial background, with the outcome determined for many children before the game began. (Tucker & Coddling, 1998, cited in Gratz, 2000)

Supporting this position, Secretary Paige again referred to 2000 NAEP results which showed that, “While 40% of White fourth-graders read at or above the proficient level, only 12% of Blacks and 16% of Hispanics perform as well.” Contributing to these disparities is the fact that America’s education system is characterized by a pattern of highly variable standards and classroom practices – “especially between schools serving lower-income and/or minority populations and schools with more middle-income, non-minority populations” (Archbald, 2001). Further, a growing body of research indicated that:

...differential teacher effectiveness is a strong determinant of differences in student learning, far outweighing the effects of differences in class size and heterogeneity. (Darling-Hammond, 2000, cited in Archbald, 2001)

Insisting that these conditions are not satisfactory, “knowledge as content”
proponents argued that to equitably prepare all youth for the world of tomorrow, schools must share a common vision that is

d-spelled out in a clear, specific curriculum that states what children are expected to learn each year. The curriculum puts academics first. It sets high but attainable standards. It teaches fundamental skills and general knowledge about important people, ideas, events, and terms. (Bennett et al., 1999, p. 93)

Based on the belief that there is "an unavoidable interdependence between rational thinking and factual knowledge, and that teaching a broad range of factual knowledge is essential to effective thinking," (Hirsch, 1996, p. 54) these thinkers argued that adults have a responsibility to identify what all children are expected to learn and when they are expected to learn it. These expectations should be clear and explicit, and thus provide the standards by which student, teacher and school achievement can be gauged.

From a broad social perspective, Gratz (2000) stated that standards provide a common metric upon which the achievement of America's students can be compared to international competition. Furthermore, standards prove an efficient way to address the economic inequities associated with a growing education gap. (Bennett et al., 1999; Hirsch, 1996, Ravitch, 1995)

At a more fundamental level, proponents of this position (Archbald, 2001; Bennett et al., 1999; Hirsch, 1996; Ravitch, 1995) argued that standards are a necessary element for effective classroom instruction, and that student achievement and curriculum content should not depend on what classroom or school a child attends. There should be a consistency in expectations for student achievement and curriculum coverage by which
all students are evaluated.

The planning and delivery of instruction should be guided by and aim toward clearly specified standards. Whether standards prescribe how well students should be able to read or write by certain grade levels, what topics they should cover in particular courses, or what competencies they should demonstrate at graduation, in principle the standard is the same for all students…. The antithesis of standards-based instruction is each teacher independently deciding what will be covered in his/her classroom and the level of achievement expected of the students. Without standards, expectations for student knowledge and achievement and instructional goals are necessarily based on the idiosyncratic preferences of individual teachers. (Archbald, 2001)

Moreover, Archbald (2001) observed that in an effective standards-based classroom assessment plays an integral role.

Good teachers assess the outcomes of their instruction frequently by questioning students and with more formal assessments of student learning, and they use the assessment information in the design of subsequent instruction ... (and) ... When assessments reveal students are not achieving desired learning outcomes, instruction is revised accordingly.

Lacking clear standards and good assessment data, the concern is that too many teachers and administrators fall prey to easy, but unexamined, assumptions that standards are high, teachers are teaching effectively, and students are achieving at acceptable levels (Litow, 1999; Powell, Farrar & Cohen, 1985; Sanders, 1999,Sizer, 1984). (Archbald, 2001)
When fully implemented at an organizational or systemic level, "standards-based instruction and assessment requires that the planning, instruction, and assessment cycle be vertically integrated" (Archbald, 2001). This is reasonable, since as Ravitch argued that national standards "are necessary in an advanced society operating in a highly interdependent, competitive global economy," insisting, further that "The United States is one nation, not fifty independent states. It makes little sense for each state to have markedly different standards in mathematics, science, English, and other important subjects" (p. xxiv).

Others (Bennett et al., 1999; Gratz, 2000; Paige, 2000) cautioned that clear standards and good assessment data alone are not enough to increase the achievement of America's youth. For standards and assessment to be instruments of change, there must be a system of accountability. "We must hold educators accountable to the bold proposition that every child can learn" (Paige, 2000). Those who succeed in attaining standards should be rewarded, "and sanctions or intervention should follow failure" (Bennett et al., 1999, p. 586).

Section III: Education Quality as Conformance to Standards

This prescription for the vertical integration of education accompanied by standards, assessment and accountability has largely shaped No Child Left Behind (2001) and thus provided the conceptual frame for education policy debates at all levels of government and consequently deeply influences school and classroom practices. Under these conditions, education quality today is being conceptualized as conformance to specifications/standards, which has a number of recognizable benefits associated with it.
First, conceptualizing education quality as conformance to standards is easily understood. Historically, it has been the prevalent definition for most of the 20th century and was the basis for Shewhart's original work in quality. This conceptualization makes education quality quantifiable. Thus it allows for clearer and more focused communication about complex problems, and provides a means of documenting and evaluating the effects of actions across all levels of the system.

Secondly, at a deeper level, conceptualizing education quality as conformance to specifications is culturally meaningful and consistent with the experience of the vast majority of individuals who have attended school and had the quality of their work graded relative to teacher standards.

Thirdly, the conformance to specifications model of education quality provides a straightforward way to express an educational vision or goal that is meaningful and easily monitored using computerized data management tools. Furthermore, once a vision has been specified in quantifiable terms against benchmarks

...teachers have a common vocabulary to plan instruction and reflect on practice; plan instruction from a shared understanding of content and achievement standards; evaluate students based on principles and expectations that are consistent across students, groups of students, and periods of time; and participate in instructional management, such as monitoring, the effectiveness of instructional programs and identifying instructional and resource allocation priorities for short and long-term planning. (Archbald, 2001)

Fourthly, conceptualizing education quality as conformance to specifications is congruent with current understanding of the shortcomings of America's educational
system relative to international competition. By framing the problem as it did in *A Nation at Risk*, the National Commission on Excellence in Education (1983) implicitly equated education quality and student achievement as measured by standardized tests. Doing so has provided a basis for international comparison using valid and reliable measures, and contributed to a sense of predictability and control within a rapidly changing and highly competitive world economy. Conformance to specifications thus provides objective measures of our standing in the race for student achievement, which in turn can serve as a leading economic indicator of our nation’s store of human capital and its associated economic well being.

Lastly, conceptualizing education quality as conformance to specifications is likely to contribute to greater efficiencies within America’s education system. Since as business has shown, once standards have been established that can be met with little variation, efficiency often increases and costs are lowered. (Reeves & Bednar, 1994)

Despite the benefits of defining education quality as conformance to standards, quality researchers (Evans & Dean, 2002; Garvin, 1988; Reeves & Bednar, 1994; Yong & Wilkinson 2002) agreed that there are significant shortcomings associated with this approach, which have historically made it difficult to apply outside of the industrial sector. First, defining education quality as conformance to achievement specification tends to be internally focused, and thus education runs the risk of ignoring the link between education quality and public wants. And just as in business, if internal education standards are not congruent with what the public wants, they are irrelevant. Moreover, by using federal legislation to control and coordinate education standards, there is an implicit assumption that that part of the education system which is most removed from
the customer is in the best position to determine what the requirements of quality should be.

Secondly, while quality as conformance to specifications was the dominant definition during much of the 20th century, as thinking about quality matured and TQM thinking became more widespread, the emphasis of quality shifted from the producer to the consumer. Today, across both public and private, as well as manufacturing and service organizations, the most widely used definition of quality is based on meeting or exceeding customer expectations (Reeves & Bednar, 1994; Yong & Wilkinson, 2002).

Lastly, the conformance to specifications model of quality was initially developed and used in an industrial context to ensure product consistency. Recent research has shown that there are distinct characteristic differences between products and services, which affect how quality is best conceptualized with regard to each. There is wide agreement among quality researchers (Bowen & Schneider, 1988; Evans & Dean, 2002; Gronroos, 1984; Oliver & Rush, 1994; Zeithaml et al., 1990; Reeves & Bednar, 1994b) that services are best characterized by the fact that (a) they are sets of actions or experiences and thus intangible, (b) services are heterogeneous and can vary widely from provider to provider within the same organization, (c) services are often produced and consumed simultaneously, and, (d) customers often play an integral part in the delivery of the service. Based on these criteria, education is better described as a service rather than a product, and as the quality literature has shown, service quality and product quality have distinct features and are not interchangeable constructs. Thus, using a product-based model of quality to evaluate a service, such as education based on the justification that they are both quality, is very much like using the same tools and metrics to measure
water whether it is a liquid, solid, or gas.

Section IV: A Service-based Model of Education Quality

As concise and easily understood as the current conformance to standards model of education quality is, it fails to consider that education is inherently an organic, human system not a mechanistic assembly line. As a system, education is made up of people functioning both as individuals and as members of stakeholder groups, people with varying degrees of power and influence, people of different ages who make judgments based on different expectations and perceptions, all of which vary overtime as personal and environmental circumstances change.

Under these conditions, a valid robust model of education quality needs to not only account for whatever factors combine to form the construct itself, but also needs to place the construct within a context that explains how education quality influences the decision making of individuals and stakeholders across the system. To accomplish this, the previously reviewed quality literature has shown that any service-based model of education quality needs to consider peoples' expectations and perceptions regarding a wide variety of disparate education factors beyond student academic achievement. Further, given that education quality is a single concept that exists within and is influenced by a larger conceptual framework, it is necessary that a model capture the non-linear, interactive characteristics education quality as it relates to decision-making.

These constraints suggest that a fully developed, service-based model of education quality must account for how mental models of quality and satisfaction are formed and used to guide decision-making. While the literature has shown that education
quality is a distinct, stand-alone construct, it has also suggested that the impact of education quality on decision-making is best understood in conjunction with customer satisfaction. Therefore, these constructs will be modeled individually and in combination before their influence on education decision-making is considered. The following service-based model of education quality will be initially presented in three parts. The first defines and models education quality. The second does the same for customer or stakeholder satisfaction. Part three then investigates the relationship between education quality and satisfaction and shows how their interaction affects decision-making.

*Defining and Modeling Education Quality.* Education quality, like other forms of service quality, represents a global attitude derived from a comparison of an actual encounter and an idealized expectation of what should have happened. This judgment is based on five broad factors:

1. **Tangibles:** the degree to which education physical facilities, equipment and appearance of personnel are deemed to be adequate by stakeholders.
2. **Reliability:** the degree to which a promised or expected education service is performed dependably and accurately.
3. **Responsiveness:** the degree to which education service providers are willing to help stakeholders and provide prompt service.
4. **Assurance:** the extent to which educators are knowledgeable, courteous, and able to inspire trust and confidence among stakeholders.
5. **Empathy:** the extent to which education service providers give stakeholders caring, individualized attention.

Stated more precisely, education quality is a global attitude that is based on the
degree to which perceptions of education meet or exceed stakeholder expectations of what should happen with regards to tangibles, reliability, responsiveness, assurance and empathy. Figure 5 illustrates how these factors combine to form education quality.

![Diagram](image)

Figure 5. Education Quality

*Defining and Modeling Stakeholder Satisfaction.* In contrast to education quality, which is a global attitude, stakeholder satisfaction/dissatisfaction reflects the degree to which a specific encounter within the education system evokes positive feelings. Like education quality, judgments regarding satisfaction are based on stakeholders' perceptions related to tangibles, reliability, responsiveness, assurance, and empathy factors. However, rather than being based on a global value judgment of what should happen as is the case with education quality, satisfaction judgments are based on a comparison of
stakeholder expectations of what will happen within a given encounter. Moreover, with regard to stakeholder satisfaction, performance judgments are then further balanced against the level of sacrifice (monetary and non-monetary costs) necessary to obtain a given level of performance. The resulting value assessment, based on stakeholder cost/benefit analysis, then influences satisfaction/dissatisfaction. Thus, stakeholder satisfaction is defined as the degree to which a specific education encounter (direct or indirect) meets or exceeds stakeholder expectations of what is likely to happen (with regards tangibles, reliability, responsiveness, assurance, and empathy) balanced against the cost/sacrifice of obtaining that outcome. Figure 6 depicts this interaction.

Figure 6. Stakeholder Satisfaction

**Relationship of Education Quality and Stakeholder Satisfaction to Decision Making.** When combined, education quality and stakeholder satisfaction form a recursive
relationship. Stakeholder beliefs about education quality influence their perceptions of what will happen with regard to a specific education encounter, and thus contribute to the level of satisfaction they experience. Over time and with repeated exposures, satisfaction levels from individual education encounters are then aggregated into cumulative satisfaction. These accumulated experiences of stakeholder satisfaction/dissatisfaction in turn help forge an individual's beliefs about what should happen in an education encounter, and thereby influences more global judgments about education quality. Moreover, as supported by service quality literature, cumulative stakeholder satisfaction has a greater influence on decision-making and future behaviors than either education quality or stakeholder satisfaction. Figure 7 shows this relationship.

![Diagram](image)

Figure 7.

Relationship of Education Quality and Stakeholder Satisfaction to Decision Making
A Service-based Model of Education Quality. When the three segments are combined to show the effects of education quality and stakeholder satisfaction on decision making, education quality no longer directly affects stakeholder satisfaction as is shown in Figure 7. Instead, education quality, or the global attitude about education, affects stakeholder satisfaction indirectly by establishing an upper limit, or best-case outcome, of what a stakeholder might expect to happen in specific education encounter. Figure 8, integrates the three previous models to provide a more comprehensive picture of how education quality and stakeholder satisfaction interact to ultimately effect education decision making across all levels of the education system.
Figure 8. Education Quality and Its Effect on Decision Making
Modeling education quality in this way is consistent with the principle thinkers of quality such as Crosby, Feigenbaum, Juran and Deming, who describe quality as meeting the requirements of the customer (Yong & Wilkinson, 2002) and is consistent with the findings of more recent service quality research (Bitner, 1990; Bitner & Hubbert, 1994; Cronin & Taylor, 1992; De Ruyter et al., 1997; Goodale et al., 1997; Gronroos, 1984, 1988, 1990, 1993; Oliver, 1980; 1981 Spring; 1993, 1997; Parasuraman et al., 1985; Parasuraman et al., 1988, 1994; Rust & Oliver, 1994). Moreover, modeling education as a service quality provides a more robust conceptualization of the factors that influence its quality than the currently preferred conformance to standards model. A service-based model of education quality recognizes the fact that while academic achievement is a vital part of education, and to many an indicator of assurance, quality education means something beyond high test scores. Modeling education quality in this way supports the notion that education is an organic, dynamic, and interactive system of human interactions, in which the expectations, perceptions and values of youth play an integral role in the delivery of educational services. In combination, these factors suggest that a service-based model of education quality provides a superior, more valid way to conceptualize education quality than the current industrially influenced standards-based model.

By providing a broad theoretical framework to understand and predict behaviors across the education system, this type of service-based model of education quality provides a way to account for why individuals respond differently to circumstances, which observationally appears to be identical: why one policymaker or educational
thinker can describe America's educational system as of high quality, while others describe it as a travesty that is placing the nation at risk. It helps explain why one legislator votes to increase education spending while another votes against the same appropriations bill. It also helps explain why individual students respond to a teacher differently. Moreover, since it provides an alternative framework for understanding and predicting behaviors, a service model also provides a different lens through which to study and think about today's educational challenges, and thereby guide problem solvers to corrective actions that might not have been apparent using a more linear, production-based mental model that emphasized the direct sequential relationship of inputs and outcomes.

Lastly, since the 1980s, American business has regained its competitive advantage in the international marketplace by shaking off management models that emphasized bureaucratic control-and-command and conformance to specifications, in favor of paradigms that are customer focused and emphasize teamwork and decentralized decision-making. If American education followed the lead of business and focused more closely on stakeholder expectations and perceptions, is there any reason that the results would not be similar?

Despite the advantages associated with a service-based model of education quality, there are also serious conceptual and practical shortcomings that present significant concerns and limit its real world usefulness.

Conceptually, a service-based model of education quality is challenging to understand and communicate. In addition, since the industrial paradigm of education quality is so culturally ingrained, there is a natural tendency to want to use old paradigm
vocabulary and understandings within the new model where it may not be applicable. Moreover, the complexity of the service-based model, aggravates this tendency and further increases the chances that it will not be reliably applied by different individuals and across settings.

Since a service-based model of education quality is based a nonlinear recursive relationship among multiple independent variables, in its complete form, the model is not easily quantifiable. This limitation is significantly compounded when the model is extrapolated to consider groups of individuals and aggregation is necessary. Further, as Reeves and Bednar (1994b) have observed, stakeholders often do not know what their expectations are, especially if they do not have frequent encounters with the education system, and “because customers have idiosyncratic reactions to different experiences, predicting when product/service attributes will meet expectations and when they will fall short is complex” (p. 9).

Beyond these conceptual shortcomings the wide spread implementation of a service-based model of education quality would likely present significant social and cultural problems. Acceptance of a service-based model of education quality would ultimately challenge the underlying assumptions, goals, structures, roles and norms that are presently organizing America’s education into meaningful patterns. Evans (1996) citing the work of Marris (1986) noted that when change efforts go beyond improving the efficiency and effectiveness of what is currently being done to modify fundamental beliefs and meanings, they are resisted by individuals and groups alike.

As the Founding Fathers noted in the Declaration of Independence: “All experience hath shown, that mankind are more disposed to suffer, while evils are
sufferable, than to right themselves by abolishing the forms to which they are accustom.” (Evans, 1996, p. 47)

Section V: Conclusion

In conclusion, this historical investigation of education quality has shown that, consistent with Kuhn’s (1996) theory of paradigm shifts, the meaning of education quality has undergone significant changes that roughly correspond to the American and Industrial Revolutions. Education quality in colonial America could reasonably be conceptualized as the degree to which an education experience advanced the interests, beliefs and values of the sponsoring religious sect. After the American Revolution, the quality of an educational experience was measured by the degree to which an experience contributed to a more uniform set of cultural beliefs, thereby lessening the likelihood of political disruption within the newly formed republic. Since the Industrial Revolution, schools have been widely viewed primarily as occupational sorting and training facilities, and education quality has been largely understood within a manufacturing framework to mean conformance-to-standards. Despite this reality, a review of quality literature shows that since education is better described as a service rather than a product, its quality would be better described using a customer-focused service-based model. While a service-based model of education quality may be theoretically more valid than the current conformance to standards construct, reframing the meaning of education to conform to the quality literature would likely face significant resistance; since such a change would fundamentally challenge long held and deeply ingrained believes about education, beliefs that are rooted in feelings and have deep emotional significance; beliefs that form the
context of interpersonal relationships; and most importantly, beliefs that have grown increasingly fixed over time.

Attempting to shift from the current production paradigm of education quality to one based on service quality that emphasizes greater individualization and customer satisfaction at this time would be tantamount to changing the rules of a game after one team has gained a decisive advantage and is about to establish a winning position. In the current educational environment, it is reasonable to believe that such a sudden and radical change would be strongly opposed at all levels of the education system. Under these conditions empirical research, by testing the practical benefits and limitations of a service-based model of education quality under real world conditions, will ultimately play a pivotal role in determining the acceptability of defining education quality this way.

Section VI: Future Research

To better understand the implications of reframing education quality using a service-based model, future research might consider the following questions:

1. Appreciating that the service quality literature consistently shows that individual judgments of quality are based on perceptions that cluster around five factors (tangibles, responsiveness, reliability, assurance, and empathy), one of the first questions that needs to be addressed is whether education stakeholders also base their judgments of quality on indicators that cluster into these same factors.

2. To facilitate the investigation of education quality using a service-based model across the education system, a valid assessment tool needs to be
developed. In both the private sector and government the SERQUAL questionnaire has been successfully adapted for this use. This raises the question of whether the SERQUAL questionnaire can also be adapted for use within the education system to provide a valid and reliable indicator of quality?

3. To investigate whether a service-based model of education quality accurately reflects the decision making process and predicts stakeholder behaviors across the education system, at the building or classroom level research needs to establish whether student judgments regarding education quality predict achievement, school involvement, years of schooling, attendance, and/or behavioral difficulties. Further, research needs to determine whether improvements in cumulative student satisfaction is associated with increases in achievement, work completion, time on task or class participation.

4. Service quality literature indicates the existence of a positive relationship between cumulative satisfaction and behavior. Given this relationship, it would be reasonable to investigate whether increases in cumulative satisfaction ratings among students who have been identified with behavioral or emotional disabilities result in significant increases in prosocial behaviors and the concurrent reduction in disruptive or inappropriate behaviors.

5. To explore the effects of perceptions of education quality within a local community, it would be beneficial for school administrators to know if there is a significant relationship between taxpayer perceptions of education quality and their support for increased spending on education.
6. Similarly, at the state and federal levels it would be helpful to know whether there is a relationship between legislator perceptions of education quality and their voting patterns for education funding.
REFERENCES


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