THE FEASIBILITY OF IMPLEMENTING TOTAL QUALITY MANAGEMENT PRINCIPLES IN CHINESE EDUCATION: CHINESE EDUCATORS' PERSPECTIVES

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ABSTRACT

The purpose of this study was to investigate, through the perspectives of a group of Chinese educators, the feasibility of implementing the principles of Total Quality Management (TQM) in Chinese education. This study took a qualitative approach by posing open-ended questions to the Chinese educators. Then, a focus-group discussion, a small group discussion, and individual interviews were followed up to provide opportunities to brainstorm critical issues relating to TQM. The findings of the study indicated that Chinese educators considered TQM principles in general to be helpful in fostering the quality of education in China. They found five TQM principles to be particularly compatible with traditional Chinese culture. Difficulties in implementing TQM principles in Chinese education also were discussed. They further agreed that the present Chinese open-door policy could provide an inviting environment to implement TQM for educational improvement.

INTRODUCTION

Since W. Edwards Deming initiated his Total Quality Management (TQM) theory, business has adopted it as a model for business productivity and improvement with somewhat success. The fourteen principles Deming created in his TQM theory focused on continuous effort for improvement as an institution keeps up its pace for growth (Norton, 2005). They initiate an approach to improving an organization by teamwork and collaboration among managers and workers (Cunningham & Cordeiro, 2006). The fourteen principles are: (1) create constancy to improve the product or service; (2) adopt a new philosophy by changing perspectives and breaking from tradition; (3) cease dependence on mass inspection; (4) seek long-term overall efficiency; end the practice of awarding business by price tag alone; (5) constantly improve the system of production and service; (6) institute training and retraining of new employees; (7) provide leadership of the trade; (8) dispel fear out of employees' minds; (9) break down barriers between staff; (10) eliminate slogans and exhortations; (11) eliminate numerical goals and quotas; (12) promote the pride of workmanship; (13) institute a vigorous in-service training program; and, (14) create management structure for constant improvement of knowledge and effectiveness (Deming, 1993).

While educational systems are undergoing vigorous reform, Total Quality Management has drawn the attention of educational leaders who are anxious to demonstrate educational outcomes by improving student achievement (Siu-Runyan and Heart, 1992). Because of the context of public schooling, however, the implementation of TQM in education is significantly different from its use in business (Olson, 1992). Key implementation elements include establishing a strong sense of school vision,

promoting personal mastery learning for all organization members, focusing strategy on student-driven values, developing outrageous goals, and improving daily management (Herman & Herman, 1995; Murgatroyd, 1992; Nelson, 1994). Studies have indicated that the principles of TQM are in alignment with school improvement initiatives (Rodgers, 1998; Spirrison, 1998). Educational leaders believe that TQM could be applied to developing plans to optimize educational opportunities (Cammaert, 1995; Wilcox, 1992). Research in TQM has shown successful application of the fourteen principles in various fields of education: school culture and teacher empowerment (Marshall, Pritchard, & Gunderson, 2004; Paul, 1998), student attendance (Maulding, 1998), academic achievement (Straus, 1996), and parent and student needs (Chappell, 1993). TQM principles also were implemented in educational management overseas. Schools in South Africa have adopted Deming's principles that have resulted in enhancement of school efficiency and effectiveness (Hayward, 1998; Lukhwareni, 2003; Mohaladi, 2001; Smith, 1994). Similar quality improvement also was found in Brazilian schools where TQM was implemented (Bof, 1997). Countries going through educational reforms are exploring the feasibility of applying the principles of TQM to achieve reform purposes in their schools.

PURPOSE OF THE STUDY

The purpose of this study was to investigate the feasibility of implementing the principles of Total Quality Management in Chinese education through the perceptions of Chinese educators. In Summer, 2005, 42 Chinese educators representing seven provinces of China (Zhejiang, Guangdong, Fujein, Hupei, Henan, Szechuan, and Guangxi) came to the United States to study school reform initiatives practiced by U.S. educators. They participated in workshops and training sessions organized by the researchers to discuss the principles of Total Quality Management and their implication to educational management. The Chinese educators were invited to share their perceptions of exploring the feasibility of implementing TQM in China. In this study, the Chinese educators were asked the following questions:

1. Is it feasible to implement Total Quality Management principles to improve education in China?
2. What TQM principle(s) could be best implemented to school improvement in China?
3. What TQM principle(s) could be difficult to implement to school improvement in China?

CONCEPTUAL FRAMEWORK

Professional literature abounds with programs and studies that promote diverse ways to use Total Quality Management as a means to improve the quality of educational programs. Research indicated that TQM dimensions were consistent with the parameters of the school improvement initiatives and thus helped promote school improvement plans (Bornyas, 1995; Chappell, 1993; Detert, Louis, & Schroeder, 2001). Continuous improvement called for in TQM was in alignment with the accountability movement

associated with educational reforms (Hixson & Lovelace, 1992; Shipe, 1997). Research findings indicated, however, that commitment from educational leaders was essential to successful implementation of TQM in educational settings (Bryant, 1995; Detert, Bauerly Kopel, Mauriel, & Jenni, 2000; McDonald, 1996; Rappaport, 1993; Williams, 1996). Many educational leaders believed that TQM had positive impact on school improvement (Ford, 1998; Wilcox, 1992). Change of educational leaders would have negative impact on TQM implementation (Danne, 1992; Lembeck, 1995).

In elementary school application, TQM was found to have increased teacher and leadership collaboration in school improvement projects (Bartoletti, 2000). Blankstein and Swain (1994) cited the success of a Florida elementary school in overcoming difficulties to implement TQM principles for school improvement. In secondary schools, the overall attitudes of educators toward TQM were found to be positive (Bravo De Murillo, 1994). Success stories also were reported by Konopnicki (1996) in secondary schools in Virginia Beach where students experienced early gains from new TQM instructional practices. Turk (1994) explained that teachers favored TQM because they felt empowered in TQM implementation. McDonald (1996) and Teigland (1993) have detailed the procedures of implementing TQM principles in schools. TQM training was identified as crucial for successful implementation of TQM in school management (Bauerly Kopel, 1997; Bof, 1997; Johnson, 1998; Sadler, 1996). In higher education, TQM principles also were successfully applied to student admission, employee safety, policy formation, management performance appraisal, student services, and operational planning (Tyler, 1993).

In the TQM implementation process, possible constraints were identified as insufficient knowledge, lack of tools, short of financial support, lack of feasible leadership commitment, poor data and deployment plans, inflexibility of piecemeal implementation, unrealistic expectations, and inadequate managerial skills (Detert, Bauerly Kopel, Mauriel, & Jenni, 2000; Evangelista, 1995; Hernandez, 2001; Lares, 1995; Munro, 2008; Murgatroyd, 1993; Regauld, 1993; Sergiovanni, 2001). The benefits of installing TQM principles in education were investigated: (a) TQM implementation was closely related to matriculation passing rate (Mohaladi, 2001); (b) TQM improved student attendance and dropout rate (Bof, 1997; Maulding, 1998); (c) TQM implementation helped improve student discipline (Lares, 1995); (d) TQM was found to have improved mathematics score (Straus, 1996); and (e) TQM was related to school climate and culture (Paul, 1998).

SIGNIFICANCE OF THE STUDY

This study is significant because it is the first study of its kind to investigate the feasibility of implementing TQM principles in Chinese education. It provides an example of an honest assessment of strengths and weaknesses of TQM as it comes in contact with the political, social, and cultural dimensions of an Asian country. Results of the study provide readers with a fair examination of the implementation of TQM principles in both micro and macro perspectives. This study helps recognize the advantages and disadvantages of implementing Total Quality Management in education in countries

other than the United States. Based upon the outcomes of this research, studies of other formats and magnitudes could be designed to further examine the implementation of TQM to education.

METHODOLOGY

This study took a qualitative approach by posing open-ended questions to a group of 42 Chinese educators, who were on a visiting tour to Kennesaw State University in 2005. Written responses were followed by group discussions and interviews. Among the respondents were 18 school principals, 16 lead teachers, and 8 educational administrators at the provincial level.

A survey instrument consisting of three major open-ended questions was designed to gather information relative to the research questions. The first question was focused on gathering information about the respondents' general feeling about TQM and its application to education in China. In the second and third questions, respondents were asked to evaluate each of the 14 principles to determine the feasibility and difficulty of its implementation in Chinese education.

After an intensive training workshop on Total Quality Management Theory and its application, the Chinese educators were asked to respond to the open-ended questions about the implementation of TQM in China. A follow-up focus-group discussion session was arranged for the respondents to brainstorm critical issues relating to TQM and its educational reform climates in China. The respondents were then divided into small groups to discuss each of the 14 principles in detail to examine the feasibility for implementing TQM in Chinese education. Follow-up interviews also were scheduled for 3 principals, 3 teachers, and 2 provincial administrators to solicit their individual perspectives on TQM. The use of open-ended survey, focus-group discussion, small group discussion, and individual interviews provided opportunities for Chinese educators to respond in different research settings with comfort. It also allowed the researchers to cross-reference significant information provided by the Chinese educators (Torbert, 2002). All qualitative data collected through written responses, focus-group discussion, small group discussion, and interviews were categorized systematically, coded, and analyzed by carefully examining consistent patterns of consistencies and disparities.

RESULTS

Research Question 1:

Is it feasible to implement the principles of Total Quality Management to improve education in China?

Through data analysis the researchers found that Chinese educators perceived the general theme of Total Quality Management to be very exciting. They felt that climates were favorable for the implementation of TQM while Chinese educational systems were undergoing vigorous reform. They also agreed that the principles of TQM to strive for continuous quality improvement had much to contribute to upgrading the quality of education in China.

Chinese educators in general responded favorably to Deming's TQM Theory.

Most of them agreed that TQM could provide a conceptual framework for educational reforms in China and that TQM could help reinforce the confidence of Chinese educators in their pursuit for educational reforms. Some positive responses from the Chinese educators are quoted in the following:

- Initiating innovative ideas like TQM will help promote the educational development in China.
- Deming's quality improvement initiative emphasizes the advancement of the entire organizational process.
- As a model of strong leadership, TQM recommends leaders to make continuous improvement for more productive outcomes. It does not set a standard for the organization to achieve.
- The systematic communication model of TQM serves a useful purpose in fostering a better understanding among components of Chinese educational reforms today.
- Current educational evaluation movements in China facilitate the implementation of TQM principles. Evaluation can help measure the improvement in educational quality.
- The ideas of TQM could provide strong support to building a high quality teaching team.

Responses from the Chinese educators were objective and multifaceted. They opened up many possibilities to further explore the principles of TQM and their implementation in Chinese education. They particularly highlighted certain examples of current educational movements in China to which TQM could constructively contribute. These educational movements included higher education reform, educational evaluation, accountability management, and building quality teaching teams.

Research Question 2:

What TOM principle(s) could be best implemented to school improvement in China?

The respondents found that certain TQM principles were compatible with Chinese culture and tradition. They could easily be adopted for use in Chinese education. Out of the 14 TQM principles, pride in workmanship, continuous improvement, barrier break down, in-service training, and leadership provision seemed to be working well with traditional Chinese culture.

Deming's *pride in workmanship* is in total alignment with Chinese educational practices. As described by Educator N, school success was "the cumulative effort of teachers and staff working as a team." The idea was further elaborated by Educator J that "Teachers claim ownership of their school and students." Another educator also added that the key to school success was: "Teachers take pride in student success and the school takes pride in teacher success."

Building a strong teacher team by *breaking down barriers* between teachers and staff was supported by Educator R. The notion was also enthusiastically endorsed by three of his colleagues. Educator G noted: "The TQM could serve a useful purpose in

opening communication channels in Chinese education."

In-service training as advocated in TQM has always been a strong component in Chinese education. It is understood well among teachers in China that they need to continuously improve themselves professionally. One educator identified moral improvement and teaching skills as areas that needed to be focused on. There was no doubt that Chinese educators believed in in-service training as a channel of continuous improvement.

Provision of leadership in a school setting was strongly supported by one of the educators who referred the success of a school to its strong leadership. The significance of instructional leadership was stressed by Educators A, J, and M. To illustrate the unique role of school leadership, Educator CC claimed that "principal leadership is built on role modeling good character."

As stated by Educator AA, "TQM does not set the standard of the best but it calls for continuous attainment of better quality." Deming's theory fits in well with the traditional Chinese saying of continuous improvement as a means of self-challenge. Educator M also said, "teachers need to constantly improve themselves by trying new approaches. The essence of quality improvement in education is the creation of a highly qualified teaching team."

Research Question 3:

What TQM principle(s) could be difficult to implement to school improvement in China?

Even though Chinese educators had expressed keen interest in and serious consideration of implementing TQM, their enthusiasm was not without reservation. The Chinese educators were not totally optimistic about the implementation of TQM in China. They felt that some TQM principles, such as individual inspection of product, elimination of slogan, and elimination of numerical quota, were problematic and could be difficult to be implemented in Chinese education. These TQM principles are described in the following paragraphs:

Mass inspection of product as proposed by Deming resembles standardized public examinations in education. Most Chinese educators disliked comprehensive public examinations as a measure of student success. One of the educators described comprehensive examination as overshadowing the individual intelligence of students. "It limits teachers' creativity and students' diversified development." Given the context of test-driven curricula and overall mindset of majority community members, however, they knew very well that it was not easy to abandon the comprehensive examination that is presently used nationwide as a criterion to determine student achievement. Even in the classrooms, mass instruction and standardized testing activities are still being practiced. Because of large classes, individualized instruction is difficult, if not impossible.

Deming called for eliminating slogans in business management because many slogans had been raised with no practical substance of quality planning. Traditionally, however, educators in China are still looking for developmental directions from

the Central Government in the form of slogans. Slogans have been used as tools to propagandize political movements in China for decades. In a highly centralized society such as China, the government heavily relies on slogans as a vehicle of motivation, and they will continue to be widely used in public campaigns for education.

Deming preferred a system that fostered an atmosphere of receptivity and recognition to one that measured people by the numbers they turned out. To him, looking for quick ways to improve test scores by setting numerical quotas rather than working to foster creative problem solving, critical thinking, and a higher level of learning defeated the purpose of education. Chinese educators had an opposite viewpoint. They agreed that numbers often were associated with educational goals and outcomes with no specific guidelines and support; however, it is not easy to eliminate numbers in education. As Educator T put it, "Eliminating numbers to evaluate educational outcome will end up being a worse game to play. Quantitative measure in education is still needed as a basis to determine quality."

Additional Findings:

During the focus-group discussion and individual interviews, Chinese educators brought up some critical issues in implementing TQM in education in China. Even though they responded favorably in support of the TQM theory of management, hurdles growing out of the organizational patterns of the country had yet to be overcome. These issues are summarized in the following paragraphs:

First, the Chinese educators were concerned with how education quality was defined and how educational outcomes were measured in terms of quality. Parents, principals, community, and government might have different expectations and set different performance standards. The implementation of TQM would certainly bring about a change in the way that Chinese education is operated. Resistance to change is anticipated until evidence of success is fully assessed.

Second, educational leaders in China could be reluctant to initiate innovative reform ideas for fear of being singled out for previous mistakes. Some might even be afraid of supporting the change because of uncertainty that the change would be endorsed by their new leaders of the central and/or provincial governments. To have TQM successfully implemented in China, people need to understand that bringing in new ideas does not mean finding mistakes in current policies. It only means introducing different approaches that could possibly improve educational efficiency and effectiveness. The Chinese educational system, however, is a typical top-down type of organization that allows little room for local input.

Third, some Chinese educators were still doubtful whether a business model like TQM would work in Chinese education. TQM has a business orientation of profit making as indication of success whereas Chinese educators considered education not as a profit making business but as a long-term commitment for the welfare of future generations. Could these two ideologies find common grounds? Many Chinese educators firmly believe that education management greatly differs from business management. Therefore, the guiding philosophies of the two should be different too.

Fourth, "it is not easy for TQM to be implemented in China because the current educational system engages in change activities that are supported by people currently in power. Many examples can be quoted to demonstrate cases of abandoning reform efforts when a new class of leaders comes to power." Educational reforms with no legislative foundation will vanish with people losing power.

Fifth, some educators were relating implementation difficulties to the understanding of TQM theory. As stated by one educator, "The problem is not with the policy makers but with educators' understanding of the concept and how it works." If a decision is made to give a chance for TQM to be tried in education in China, enormous effort has to be invested in working with teachers and administrators to ensure that they are comfortable with operating the system with Total Quality Management, unless top Chinese leaders have fully bought into the TQM model.

Sixth, school principals in China today have only short-term assignments as administrators of schools. Principals are only interested in school improvement projects that result in immediate demonstration of successful leadership. "Unless the implementation of TQM could document some quick evidence of school success, the improvement theory of TQM may not receive any favorable support from local school administrators."

Seventh, TQM as a business model has not been proven yet as a successful model in the business community in China. Even with a very successful business model, it may have tremendous difficulties to be transplanted to the education settings. It has to be tried in a small scale and eventually proved to be effective and useful.

Eighth, all the educators participated in this study came from provinces that are economically advantaged as a result of the commercial and industrial development of China in recent years. The views of other educators from less developed areas may differ dramatically.

DISCUSSION

Based on the responses of the research participants and the professional experiences of the researcher, it is assessed that full implementation of Total Quality Management Theory in Chinese education is difficult if not impossible in light of the political, social, and cultural contexts in China. The following points of observation are made for discussion purpose:

1. Some of the basic components of TQM, particularly "continuous improvement," would provide Chinese educators with inspiration and encouragement to proceed more confidently with their educational reform. This is in agreement with studies performed by Deter, Louis, and Schroeder (2001), Hixson and Lovelace (1992), Shipe (1997), and Wilcox (1992), who found similar results of TQM implementation in U.S. schools.
2. The findings of this study, with emphasis on the importance of leadership in the implementation of TQM, echoed previous studies conducted by Bryant (1995), Danne (1992), Lembeck (1995), McDonald (1996), Rappaport (1993), and Williams (1996) who stated that commitment from educational leaders was

essential to successful implementation of TQM.

3. That educators needed to have a thorough understanding of how TQM works is another finding of this study supported by previous work of Bauerly Kopel (1997), Bof (1997), Johnson (1998), and Sadler (1996).
4. The finding that TQM would help promote the team effort of teachers and staff is shared by similar findings of research done by Bartoletti (2000).
5. Some of the current Chinese educational movements such as educational evaluation, pride of education profession, quality teaching team, and teacher in-service programs could benefit from the ideas introduced by Total Quality Management; however, as China's national focus of development at this time is on economic growth, the decision of implementing TQM in education will be pondered around the issue of how TQM could eventually contribute to the country's economic growth with demonstrated outcomes.

CONCLUSION

Education in China has undergone reforms of various formats in the Post-Cultural Revolution period. Much work needs to be done to meet the basic education needs as well as the future challenges of the century. The respondents agreed that the open-door policy in China would provide an environment that could foster the implementation of TQM in China to improve education. They also realized that the principles of Total Quality Management could throw new light into enlightening ideas of educational reform in China. Out of the 14 points in TQM, pride in workmanship, continuous improvement, barrier break down, in-service training, and leadership provision were considered to be compatible with Chinese culture and tradition and would stand a good chance of successful implementation in China. Individual inspection of product, elimination of slogans, and elimination of numerical quota were typically considered as elements that would be difficult to implement in Chinese education fields. Despite social, political, and professional concerns, the Chinese educators felt that many aspects of Total Quality Management Theory could be favorably implemented in China. A Chinese proverb says, "Studying is like rowing a boat against a flowing current. If no effort is exerted in continuously moving the boat forward, it will eventually be pushed backward by the opposite current." The general theme of Deming's Total Quality Management theory is well reflected by the idea of this Chinese proverb.

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