

*The Strategies of Improving Instruction Qualities in Taiwan Senior High Schools
from the Perspective of TQM*

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Abstract

The purpose of this study was to find out the strategies of improving instruction qualities in senior high schools from the perspective of TQM. The subject of the study included principals of the core schools in the School Actualization Program, chair people of the board of private high schools, principals of the senior high schools, education authority, parents, teacher representatives, and education experts. A content analysis technique was employed, and several interviews and Focus Group Interviews were then conducted. This study first explored factors that influenced instruction qualities in senior high schools, further analyzed the government subsidy standards and evaluation indicators of senior high schools. This paper finally provided suggestions from the perspectives of education systems, school strategies, and instruction structures.

1. INTRODUCTION

With the arrival of globalization era, comes with intense international competitions. To face the challenges from globalization and technicalization, many countries around the world start to examine their educational policy and propose recommendations for improvement such as: 2001 USA's "No Child Left Behind Act", 2003 Britain's "Excellence and Enjoyment" strategic plans for elementary education, 2004 Britain's "14-19 Education and Skills" whitepaper for adolescent 14-19 years old, and 2001 Japan's "The Education Reform Plan to the 21st Century – The Rainbow Plan". All these recommendations expect to promote students' learning autonomy, to establish education rationales that meet the 21st century standards, and to promote the effectiveness of basic educations. With the arrival of a new era, comes with new concepts and trends. We need to face new challenges, adjust and adapt appropriately. We need to construct high quality school environment, promote instruction qualities in school system, pursuit excellence of the process and end products of education, practice sophisticated education philosophy. Only through the promotion of educational quality, talented individuals can be effectively nurtured, and national competitiveness can be enhanced.

In April 2000, "The United Nations Educational Scientific and Cultural Organization" (UNESCO) announced "Dakar Framework for Action, Education for All: Meeting Our Collective Commitments". In this framework, article six states: "Education is a fundamental human right," "Education is also an indispensable means for the effective participation in the society and economics of the rapid globalized 21st century". It also emphasizes that "Development of education systems should change from elite education to education for all, and from basic education for all to secondary education for all". In order to meet current trends in the world and to promote the quality of national education, Taiwan government plans and implements related programs targeting at senior high schools, these programs include those promoting actualization and homogenization of senior high schools, those promoting and implementing teaching quality of senior high school teachers, and those for the evaluation of senior high schools. And in 2014, twelve-year compulsory education for all will be implemented.

Many scholars have concerns for educational reforms in Taiwan. They especially worry for the upcoming twelve-year compulsory education for all, considering that it may lower teaching quality in Taiwan and weaken Taiwan's competitiveness. Therefore, how to provide sufficient driving forces and protections for senior high schools has become a topic attracting concerns from all sectors. In the educational

field, the concept of total quality management evokes many enthusiastic discussions among scholars in hope to establish education systems with total quality. Therefore, in this paper, we plan to investigate how to apply total quality management strategies to promote teaching qualities. We made some suggestions for future reference.

Based on the above mentioned motivations, this study aimed at investigating those strategies for the promotion of teaching quality in Taiwan's senior high schools. The specific aims are:

1. Investigating factors affecting teaching quality in senior high schools. Summarize and analyze related factors affecting teaching quality in senior high schools.
2. Analyze the evaluation standards for competitive counseling programs for the actualization and homogenization of senior high school. Use total quality management strategies to investigate aggressive strategies to promote teaching quality in senior junior high schools in order to provide education authorities references to promote teaching quality in senior high school.

2. RESEARCH METHODS

In this study, we used content analysis, interview and focus group discussions as research methods. They are described below.

1. Content analysis

Documents from the counseling programs for the actualization and homogenization of senior high schools, and indicators and results of school evaluation were used for analysis and the results were summarized to serve as references for in-depth interview and focus group discussions.

2. Interview

We invited principals from core schools in the actualization counseling programs, chairman of private senior high schools, senior high school principals, directors and scholar experts to participate in "semi-structured interviews" in order to gain insight into current status, problems and factors affecting teaching quality of senior high school, and related factors that affect teaching quality of senior high school. In this study, we conducted 5 interviews in 2012. Data acquired from interview, supported by the results and discussions by literature review, were used to clarify the main themes of our research and served as a foundation to construct focus group discussions used in this study.

3. Focus groups discussion

We invited representatives from educational authorities, parents' groups, teachers' associations, board members of private senior high school, and senior high school principals, high-level supervisors, and teachers awarded as outstanding

teachers and scholar experts to participate in focus group discussions. We conducted 3 forums in 2012, with a total of 50 experts participated, to explore the aggressive strategies to promote teaching quality of senior high schools.

We investigated factors affecting teaching quality of senior high schools and factors that can promote teaching quality of senior high schools. We summarized the opinions gathered from focus group discussions, and conducted qualitative analysis and frequency distribution statistics. We proposed research findings through the comparison of data from content analysis, interviews and focus group discussion, to serve as the basis to construct conclusions and suggestions of our study.

3. LITERATURE REVIEW

3.1 Content of Total Quality Management (TQM)

Crumrine & Runnrels (1991) considered TQM as a leadership philosophy, and a process allowing everyone in the organization committing to continuous quality improvement. Decisions are made based on facts, and team cooperates to achieve the objective of providing high quality products and services that the customers need.

Kano (1993) considered that total quality management is to first establish the intent and motivation to improve quality within the organization and based on technology. Then the content of total quality management is substantiated through the process of concept change, technological improvements, application of tools to closely integrate intentions and motivations.

Wu & Huang (1995) considered that the meaning of total quality management includes: (1). continuous improvement quality; (2) focus on customer needs, customer-centric; (3). team-oriented, emphasizing full participation; (4). emphasize scientific methods; use statistical methods and data analysis as references for improvement.

De Jager and Nieuwenhuis (2005) attempted to apply the TQM concept in education, and they pointed out that the three key principles are: 1. Leadership; 2. Scientific methods and tools; 3. Problem-solving through teamwork. These three principles links to each other to constitute an integrated system, and at the intersections are "organizational climate", "education and training" and "meaningful data" with the core spirit lying in customer service (as shown in Figure 1).

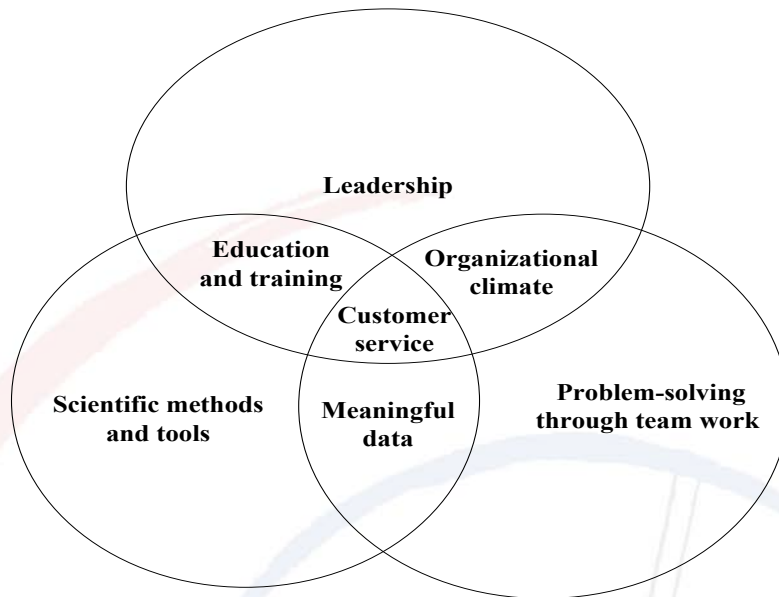


Figure 1. Three key principles for the application of TQM in education.

Source: De Jager, HJ, & Nieuwenhuis, FJ (2005:251-260)

Summarizing the above described statements from scholars, the content of TQM includes several aspects such as high-level management leadership, prevention in advance, sustainable improvements, full participation, customer satisfaction, performance measurement in order to achieve the goals of highest possible quality.

3.2 Factors affecting teaching quality

Factors affecting teaching quality include "teaching activities", "resources and facilities", "class size", "student-teacher ratio," "environmental factors", "school operations", "system policy" and "trend of the times". All these factors are likely to affect the teaching quality.

Based on the implementation program for the twelve-year compulsory education, measures for the promotion of teaching quality of vocational and senior high school teachers include the formation of core schools by disciplines and domains, and integrate senior high schools to implement various related services for the promotion of teaching quality. Implementation items are listed below:

1. Strengthen curriculum development mechanisms in each school based on the newly revised implementation guidelines for syllabus.
2. Establish a platform of high quality teaching. Assist discipline and domain specific centers to become the development centers of teaching professionals.

Hoy and Miskel (2001) held an integrated multi-dimensional perspective to discuss factors affecting teaching qualities. They considered school as a system cyclically

interwoven by four factors: input, transformation, output and environment. For the transformation process, four systems are involved: structure, individual, culture and politics.

Chio (2004) based on the perspective of enterprise quality management, clarified that output from teaching systems refers to the combination of products (teaching notes) and processes (methods of product design). In other words, output is the analysis and design of education and training through complete instructional media, curriculum and experimental methods, and to develop and assess associated processes. Output can be generally classified into tangible and intangible output. The former includes teaching materials, assessment methods, academic and other outputs; and the latter includes teaching skills, teaching concerns, and students' achievements.

Hong and (2004) pointed out that teachers are the key factors affecting the quality of teaching. During the teaching process, teachers' teaching design, strategy, assessment, classroom management and knowledge and beliefs are also important factors affecting the effectiveness of teaching.

Wu (1996) considered that to promote teaching quality, it is necessary to meet established teaching standards in five areas including objectives, brainpower, potential, interest and process. Objectives can be classified into cognitive, affective and skill objectives. Brainpower refers to the need to change teachers' teaching methods first in order to develop students' brainpower. Good teaching qualities can be achieved if students' various potentials are inspired. Interest refers to that teaching qualities can only be promoted through teaching contents that can evoke students' learning interests. Process refers to the necessary means used to achieve teaching objectives.

3.3 Content of the counseling programs for the actualization and homogenization of senior high school

Counseling programs for the actualization of senior high school can effectively enhance the energy needed for team advancement in senior high school; assist the achievement of actualization and the development of unique characteristics of schools; increase the percentage of junior high school graduates who enroll to nearby senior high schools and enrolled with exemptions of entrance examinations; realize the enrollment diversification programs for vocational and junior high school and 5-year college established by Ministry of Education; balance the development of senior high schools in many different locales; and steadily implement twelve-year compulsory

education (Ministry of Education, 2011). While the main objectives of homogenization programs for vocational and senior high schools are to emphasize the vertical integration between vocational and senior high schools and junior high schools; to continue the existing horizontal integration of vocational and senior high schools in the community and to extend it to the vertical links; to consolidate the cooperative relationship between vocational and senior high schools with junior high schools to achieve the objective of sharing educational resources such as teacher manpower, curriculum and equipment; to promote competitiveness of vocational and senior high schools in the community; to provide junior high school students in the community with the opportunities for career exploration and to understand the learning content in vocational and senior high schools in advance; to allow students the opportunity of adaptive learning in local vocational and senior high schools to realize the objective of enrollment in nearby schools (Ministry of Education, 2011).

Summarizing the analysis of related factors affecting teaching qualities and the content of the counseling programs for actualization and homogenization, we know that some factors need to be considered in order to promote teaching qualities in senior high school. These factors include the evaluation standards, indicators and weighting for counseling programs for the actualization and homogenization of senior high school. It is also necessary to design fair and reasonable evaluation system.

4 DATA ANALYSIS

According to study objectives, we used several research methods including content analysis, interviews, and focus group discussions. Results of data analysis are listed below:

1. Factors affecting teaching qualities

- (1). Workload for concurrent administrative duty is too heavy. The number of teaching hours is too high. These two factors prevent teachers from providing individualized consultation to satisfy students' individual differences.
- (2). Concept of credentialism is too heavily rooted. Curriculum guidelines are not closely followed. These two factors reduce students' opportunities for diversified learning.
- (3). There is discrepancy between the training and needs of teacher manpower. It is recommended to appropriately train teachers for specific or newly emerging disciplines.
- (4). Parents and students have biased concepts just to pursuit high test scores. Education resource is insufficient.

2. Strategies to promote teaching qualities

- (1). To ensure and promote teaching qualities, high-quality support system should be established for teaching.
- (2). In order to allow students to maximize their expertise and potential, it is necessary to set up evaluation indicators for teaching; to implement active teaching; to diversify teaching; and to tutor students for adaptive learning.
- (3). Apply total quality management strategies to enhance school's brand image.
- (4). Establish a mutual support platform among schools so that teachers and equipment can be shared. Promote in-service training and exchange of teachers and administrative staffs among schools. Establish mechanisms for schools to jointly hire teachers specialized in highly needed disciplines.
- (5). Through the vertical strategic alliance between high schools and universities, relax the regulations restricting university teachers from teaching in high schools. Further extend the strategic alliance down to junior high school level. For horizontal connection, one flagship university is chosen to form strategic alliance.
- (6). Organize professional community support groups for teaching and teachers. These support groups will provide long-term and regular on-site consultations at schools to revitalize curriculum teaching and to promote teaching qualities.
- (7). We recommend setting up certification for the hours required for teachers' training. This is to enhance teachers' professional development and to enhance teaching qualities.
- (8). For those schools having a total score less than 80 in their assessment, education authorities can hire experts, scholars and principals from core schools to organize an ad hoc group to provide diagnosis and assessment of problems on-site.

5. RESULTS

Through the analysis of literature, interview, and focus group discussion, major results from this study are:

1. Programs for the homogenization and actualization of vocational and senior high school

- (1). Through the competitive programs such as counseling programs for the homogenization and actualization of vocational and senior high school, schools not only can use subsidy to renew teaching resources and equipment, teaching qualities can also be promoted.
- (2). In order to make project applications and subsidy more objective and fair, it is necessary to establish standards, indicators and weighting for the evaluation of counseling programs for the homogenization and actualization of vocational and senior high schools.

2. Factors affecting teaching qualities:

- (1).Teaching is not properly implemented, affecting students' balance development in five domains.
- (2).Teachers' evaluation is not implemented, affecting work efficiency and enthusiasm.
- (3).There is not yet a linkage between the evaluation of teachers' professional development and the appraisal systems for teachers, affecting their professional development and teaching qualities.
- (4).Workload for concurrent administrative is too heavy for teachers, preventing them from providing counseling to students based on the student's individual differences.
- (5).Insufficient subsidy for funding and inadequate educational resources, affecting teaching qualities in private schools.
- (6). Parents and students have biased concepts. They over pursuit for high test scores and performance in academic advancement.

3. Theory of total quality management. Strategies to promote teaching qualities:

- (1).Set up quality management plan. Establish standard operation procedures. Use PDCA cyclic quality management system to implement programs for the continuous improvement of quality.
- (2). Leaders should provide open communication channels and integrate the team. Create common vision for the school. Authorize and empower teachers. Establish feedback mechanisms and motivate staffs.
- (3). Create a harmonious school atmosphere and increase interpersonal interaction of the members. Focus on full participation with team cooperation oriented.
- (4). Based on the cyclic PDCA concepts of total quality management, implement quality management, control and check. Create school characteristics and shape high-quality school.
- (5). Periodic inspect teaching environment and equipment. Improve service quality and meet students' learning needs.
- (6). Fully grasp opinions from parents and community members to enhance customer satisfaction and to serve as references for future improvement.
- (7).Develop a complete set of human resource development programs. Schools should value staffs' in-service training, encourage teachers for continuous self-learning and innovation, support teachers to research for new educational concepts and methods, and to enhance teachers' professional competence and knowledge.

6 CONCLUSION

Quality improvement is the first priority to superior quality management of education. In United States, “Blue Ribbon School” label is used to encourage schools with successful operation. Within “Baldrige National Quality Program”, “Education Criteria for Performance Excellence” is set up to highlight the emphasis and confirmation of educational qualities. In Britain, “Beacon School” is used as learning example for other schools. In 2005, Britain proposed “14~19 Education and Skills” whitepaper to further specify the content and quality of education. In 1998, Hong Kong set up the “Quality Education Fund” and “Outstanding School Award Programs” was formally launched in 1999 June. The educational reform currently being promoted in Taiwan also aims primarily at promoting education qualities. Education authorities should use “Quality School” certification system to encourage schools so that students can realize their potentials appropriately, parents can identify with school and be rest assured, recognize teachers’ professional devotion, and ensure school’s unique branding.

Based on total quality management perspective, this study made following recommendations for strategies to promote teaching qualities:

1. Planning for school’s vision. All members design plans or programs for total quality management together.
2. Set up standard operation procedure for quality management in order to implement plans or programs.
3. Establish communication channels and mechanisms for proactive services that are based on the service spirits of customer satisfaction-oriented.
4. Based on cyclic PDCA concept, always ready to review and improve in order to maintain superior performance and sophisticated teaching quality.
5. Emphasize the commitment from executive and high-level management. Implement mechanism to provide feedback and evaluation of quality management.
6. Planning a system for staffs training and manpower resources development. Establish quality management for benchmark learning.
7. Fully grasp the needs of customers. Provide aggressive cares and assistance for disadvantaged or low-achievement students to fully take care of every student.
8. Host training courses on total quality management to assist schools in gaining better performance in implementing total quality management.

When confronted with the 21st century high competitions and challenges, many developed countries devote to education reform and manpower development in order to gain a competitive edge, to enhance citizen’s quality, to promote social progress,

and to improve national competitiveness. If Taiwan can properly use main characteristics of total quality management to reshape superior quality school culture, then every school can become a team with vitality to effectively promote teaching quality, to pursuit for education system with better performance, and to bring new opportunities to Taiwan education.



REFERENCES

- Ben-Wen Zhang (2009). Key to the maximization of school performance – total quality management. *Friends of elementary educations*, 60 (3) , 10-16.
- Bi-Shun Hong, Hong-Lin Lu (2004). Teachers' knowledge beliefs and teacher's evaluation. *Education Research Monthly*, 127, 93 -99 .
- Chi-Yang Chao (2004). Evaluation of teachers' quality and teaching in the vocational education systems. *Education Research Monthly*. 127, 74 -84 .
- Ching-Shan Wu, Tian-You Lin (1994). Total quality management and its application in education. *Elementary Education Monthly*, 3, 1 -28 .
- Ching-Shan Wu, Xu-Jun Huang (1995). New drive for the promotion of education quality: on the topic of total quality management and its application in education. *Education Data and Research*, 2, 74 -83 .
- Ching-Shan Wu, Tian-You Lin (2003). *Le Cordon Bleu International*. Education Information and Research, 50, 115 -116 .
- Ching-Ji Wu (1990). *Sophisticated educational philosophy*. Taipei: National Taiwan Normal University Bookstore Co.
- Ciampa, D. (1992). *Total quality: A user's guide for implementation*. New York: Addison-Wesley Publishing Co.
- Ching-Ji Wu (2006). High quality school, 2006. In Taipei Teachers' Training Center (ed.): *High Quality School, 2006*, topic on administration (pages 6-13). Taipei: Taipei Teachers' Training Center.
- De Jager, H. J., & Nieuwenhuis, F. J. (2005). Linkages between total quality management and the outcomes-based approach in an education environment. *Quality in Higher Education*, 11(3), 251-260. (ERIC Document Reproduction Service No. EJ721281)
- Deming, W. E. (1986). *Out of the crisis*. Melbourne Sydney: Cambridge University Press.
- Da-Wei Xu (1997). Total Quality Management and its application in the operation and management of schools. *Digest on Educational Data*, 228, 139 - 158.
- Hoy, W. K., & Miskel, C. G. (2001). *Educational administration: Theory, research and practice* (6th ed.). New York: McGraw-Hill.
- Horine, J. E. (1993). Improving the educational system through Deming's system theory. *The educational forum*, 58, 30-35.
- Jiu-Yong Dai (ed.) (2005). *Total Quality Management*. Taichung: Chun-Hei bookstore.
- Moo-Kim Chen, Nian-Xiang Yang (November, 2008). Inspirations to principals' leadership and school management from high quality school administrative management.

- Ministry of Education (2013). Implementation program for the even distribution of community educational resources for junior and vocational high school adaptive learning. Retrieved from <http://comm.tchcvs.tc.edu.tw/> on April 25, 2013.
- Ministry of Education (2013). Subsidy programs for optimizing junior high school. Retrieved from <http://12basic.edu.tw/Detail.php?LevelNo=12> on March 25, 2013.
- Ministry of Education (2013). Implementation plan for the junior high school evaluation, school year 102. Retrieved from <http://12basic.edu.tw/Detail.php?LevelNo=17> on April 25, 2013.
- Ministry of Education (2012). Education Statistics of Republic of China, Taiwan. Taipei: Ministry of Education.
- Nian-Xiang Yang, Moo-Kim Chen (2011). Investigation of the construction of quality management indicators for high quality schools. Archive of educational scholarly works (100 year of Republic of China, Taiwan), 3 (2) ,57 -80 .
- Paper presented at the international conference “Educational management and the strategic alliance between industry and university”, held National Ping-Tung Educational University, Ping-Tung City.
- Sallis, E. (1993). Total quality management in education. London: Kogan Page.
- Si-Dar Wu (2000). Investigation of the construction of total quality management system for vocational high school. Unpublished dissertation. Department of Education, National Kaohsiung Normal University, Kaohsiung.
- Yi-Feng Ruan (2009). Inspirations for promoting educational quality from quality management models from Europe, USA and Taiwan. Quality Monthly, 45 (12) ,17- 23.
- Zhe-Bin Huang (2009). Difficulties and the planning and promotion for the implementation of total quality management in schools. Friends of elementary educations, 60 (3) , 3-9 .
- Zhuo-Xun Wu (1996). Investigation of teaching quality. Journal of Tao-Yuan County Culture and Education (re-issued),2,38 -39 .
- Zhen-Cheng Zhang (1998). Total quality management and school leadership. Secondary Education, 49 (1) ,35- 40.

