

Quality Assurance in Education: Perspectives from Teachers and Students

教育の質の確証：教師と学生からの視点

PingPing Zhu Lincoln
林肯朱平平

Total quality is a philosophy that originated in industrial circles. However, its core concepts – totality and quality are applicable to educational management, and the teaching and learning process. Its spirit of continuous improvement is the key to quality teaching and learning. This article analyzes the issues of quality assurance in education in its specific sense in reference to the quality of knowledge and skills the students develop during any course taught. In the process of quality teaching, the teachers' competence and their consistency with teaching goals and objectives are extremely important, whereas in the process of quality learning, the autonomy of learners is the key. The goal of this paper is to appeal to the involvement of teachers and students in educational quality assurance. Educational assurance is the quality experience of both teachers and students, and it mainly depends on quality teaching and quality learning.

Introduction: The Quality Movement and its Legacy

The quality movement in industry and management has gone through more than half a century. In this movement, the quality of products has to meet certain criteria through documentation, inspection, auditing, etc. Everyone in the organization is involved in the continuous improvement of quality. There are three basic elements of the quality movement: quality, totality, and control. The terms of quality control, total quality, total quality control or total quality management all include these three basic elements. Quality gurus interpreted the main points of the quality movement in the following ways (MurTon Group, 1999; West-Burnham, 1995):

1. What is Quality?

- 1) Quality is the conformance to requirements set by the manufacturer/supplier to meet a specific customer need (Phil Crosby).
- 2) Quality is everyone's responsibility (W. Edwards Deming).
- 3) Quality is everybody's job (Armand Feigenbaum).
- 4) Quality is what suits the customer at the right price for both the provider and customer (Armand Feigenbaum).
- 5) Eight dimensions of quality: performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality (David Garvin).

- 6) Quality begins with the customer and therefore the essence of any improvement is based on understanding customers' needs, aspirations and reactions (Kaoru Ishikawa).
- 7) Quality does not happen by accident, it must be planned (Joseph Juran).

2. What is total quality?

- 1) Make everyone aware they are responsible and contribute to quality (W. Edwards Deming).
- 2) Everyone in an organization realizes the responsibilities and potential effects on the quality of a product or service (Armand Feigenbaum).
- 3) Total quality means everyone contributes but in teams rather than as an individual (Kaoru Ishikawa)
- 4) Total quality is a philosophy with tools and processes for practical implementation aimed at achieving a culture of continuous improvement driven by all the employees of an organization in order to satisfy and delight customers. The distinctive feature of total quality is the emphasis on totality: all the characteristics are aspired to and by everybody all the time in every situation (West-Burnham, 1995).
- 5) Everyone in the system is expected, invited and trained to participate in the improvement process (Tribus).

3. What is total quality control?

- 1) Zero Defects: The goal should be nothing less than perfect quality and not to raise preventive costs (Phil Crosby).
- 2) Maintain a consistent quality message and continuous improvement; defect prevention approach rather than defect detection (W. Edwards Deming).
- 3) A common sense approach to quality standards, conformance, corrective actions and planning for improvement is the control required for gaining that quality (Armand Feigenbaum).
- 4) Company-wide quality control participation internal and external to reduce defects (Kaoru Ishikawa).
- 5) Develop product or service to meet customer's needs (Joseph Juran).
- 6) Resource should target their influence and the concepts of quality and reliability should be addressed at the design stage (Genichi Taguchi).
- 7) Zeros Quality Control (ZQC): Meaning inadvertent mistake prevention (Shigeo Shingo).

Total quality is also called 'total quality management' (TQM). Quality management is to organize the efforts of people in such a way that not only do people approach their assigned tasks with enthusiasm, but they also participate in the improvement of how the work gets done.

4. Why TQM?

Development is based on quality and its improvement. Standards are set up to ensure the quality of products or outcomes and services. As the world became more diverse and more competitive, standards and quality are common grounds for exchange, competition and further development among all fair players.

Quality is the key to success and development. Each organization's reputation and contribution to the society will be judged on their performance on quality. Any practice damaging the quality will be a "deadly disease" to customers internal and external as well as the organization itself. Among seven "deadly diseases" to quality Deming (MurTon Group, 1999) listed, lack of consistency of purpose, emphasis on short-term profits and reliance on performance appraisal and merits as the top three. Quality and cost are the same. Cost of non-quality can be huge, for example, wasted capacity or "hidden plant" is caused by not getting it right first time (Feigenbaum). There are other "hidden plants" such as rework, false and inaccurate data (Ishikawa), irresponsibility, dishonesty, disloyalty, etc. Thus poor quality means more cost to both organizations and customers at different levels.

Quality has to be total. In other word, it has to be based on quantity. There is no quality without quantity. Quality pervades every product, every step of production, and everyone's performance. Thus Crosby encourages nurturing a culture of doing things right first time, predicting what will happen and the development of the correct quality consciousness and employee loyalty and pride in the company they work for (MurTon Group, 1999). Only when the quality is controlled or ensured, will products and performance last.

Total quality management in industry (TQMI) has been proved to be practical and essential for production and development. For example, ISO is a federation of the national standards bodies of 149 (2005) countries. It has a current portfolio of more than 15,000 standards that provide practical solutions to ensure vital features such as quality, ecology, safety, economy, reliability, compatibility, interoperability, efficiency and effectiveness. Within ISO, ISO 9000 and ISO 14000 families of management system standards have widened ISO's scope to include managerial and organizational practice. Can its principles be applied to schools and universities? Can teaching and learning quality be ensured within a system called total quality management in education (TQME)?

From TQMI to TQME

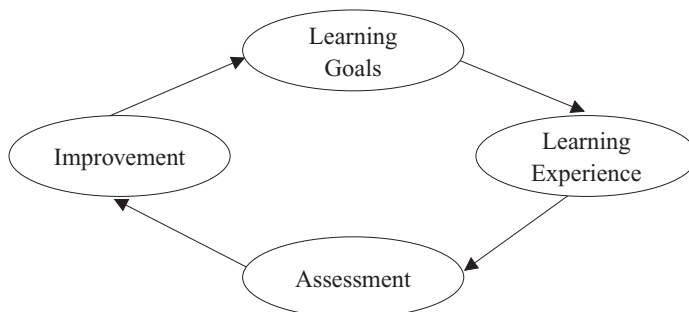
Higher education discovered TQM in the 1980s and quickly became enamored of it. Some academic programs and many individual faculty members have tried applying quality principles in their teaching. However, many faculty members argue that TQM was developed by and for industry to improve profits, industry and the university are totally different, and talking of students as "customers" is offensive. This is probably one of the main reasons that after more than a decade of such efforts, TQM has not established itself as the way many universities operate, especially in matters related to classroom instruction (Felder & Brent, 1999). However, some university professors see the value of TQM in improving classroom instruction, as Felder and Brent said, "almost every known strategy for

teaching effectively cited in standard pedagogical references has counterparts in TQM components.” But they still hold that there is no need to force-fit an industrial model or invent questionable analogies (e.g., students as “customers”) to achieve it. The best way they suggest is – don’t talk about TQM, just do it (1999). The reason is because the industrial culture and academia culture are very different.

Industry	Education
Mission is clear; quality is straightforward to define.	Mission is complex; quality is difficult to define.
Quality is easy to assess.	Devising a meaningful assessment process is a monumental task.
Customer is easy to identify, and is always right in principle.	Various “customers” ¹ whose needs are contradictory ² or wrong.
Command exists on paper and in fact.	Command might exist on paper but is in fact amorphous.

(Source: Felder & Brent, 1999).

Firstly, the industrial side of quality issues is not as bright as the above resource shows. As one of the quality gurus, Dr. Joseph Juran commented in 1996 “Only 1-2% of companies are role models for quality. Less than 20% of companies are adequate in terms of quality” (in MurTon Group, 1999). Secondly, the educational side of quality issues is not as dark as the above resource shows either. For example, the Association to Advance Collegiate Schools of Business (AACSB) strives for continuous improvement of learning assurance through a clear mission and vision statement, particular knowledge or abilities specified in the school’s learning goals and objectives, and course-embedded measurement and testing. Learning goals are consistent with the mission of the school and are measurable through embedded assessment. The quality of learning can be ensured if none of the four steps showed in the following figure are skipped.



(Source: Betters-Reed, Marlino, Chacko, & Novin, 2003).

¹ “Customers” of a faculty member include hirers of graduates, university administrators, governing boards, state legislatures, research funding agencies, parents, and students (Felder & Brent, 1999).

² Some students want teaching that emphasizes the concrete and practical over the abstract and theoretical that will prepare them for their chosen professions; others want a rigorous education that will prepare them to enter top graduate schools and then go on to research careers. Some like working in teams; others hate it. And so on (Felder & Brent, 1999).

The first attempts to apply quality management methods in education in the U.S. occurred in Arizona where Tricia Ewing taught her students in business classes some of the tools of quality improvement at Gilbert High School in 1984 (Tribus). Starting from late 1980s and early 1990s, Mt. Edgecumbe High School in Alaska began to use TQM strategies school-wide. SRA exam results reveal a steady increase in student achievement over a seven-year implementation period. The dropout rate is reported to be low, and the attendance rate at the school is high. Qualitative data indicate that 97 percent of the students reported that the quality of education they received at the school was better than what they would have received in their home community schools³.

Kennesaw State University in Georgia is one of the universities in the U.S. that carry out a systematic way of quality control. KSU took three steps on assurance of learning (AOL) (November 8, 2004).

1. Forming an AOL Council;
2. Setting up principles of AOL:
 - 1) Purpose is to support and improve student learning.
 - 2) Faculty will identify methods providing evidence of AOL.
 - 3) Results of AOL are for the exclusive use of KSU.
 - 4) AOL data will not be used to make comparisons among faculty but between current and previous performance of a faculty member.
 - 5) AOL data will not be used for evaluation of any individual faculty.
 - 6) The faculty will receive assistance by the AOL Council to enhance individual program quality.
 - 7) Quality improvement is a long-range process.
3. Action Plan for AOL:
 - 1) Articulating student learning outcomes.
 - 2) Connecting outcomes to methods that collect evidence of AOL.
 - 3) Articulating the plan and timetable for collecting evidence of AOL.
 - 4) Collecting, analyzing, and interpreting evidence of AOL.
 - 5) Using findings of AOL for quality enhancement.

The UK has a relatively long history of TQME. Council for National Academic (CNAAC) and Committee of Vice-Chancellors and Principals (CVCP) were established respectively in 1967 and 1980, and existed up to 1992. Between 1992 and 1997, Higher Education Quality Council (HEQC) and Funding Councils' Quality Assessment Division (FCQAD) were responsible for the quality issues in the UK higher education. In its Guidelines on Quality Assurance, HEQC listed (1996, in Fry, Ketteridge, & Marshall, 1999) the followings as the institutional responsibilities: a framework of quality, entry to higher education, program design, approval and review, teaching and learning, student development and support, student communication and representation, student assessment, external examiners, etc.

³ Total Quality Management, Retrieved April 12, 2006 from Academy Excellence's webpage <http://www.gse.uci.edu/~renewal/strategies/i-TQM-sc.html>.

In 1997, the Quality Assurance Agency for Higher Education (QAA) was established to provide an integrated quality assurance service for the UK higher education. The responsibility of QAA is to safeguard the public interest in sound standards of higher education qualifications, and to encourage continuous improvement in the management of the quality of higher education through reviewing standards and quality, and providing reference points that help to define clear and explicit standards. In 2001, QAA announced its framework of academic qualifications for each of five levels of higher education in the UK: Certificate level, Intermediate level, Honors level, Masters level, and Doctoral level. The purposes of this framework are to:

- Ensure public confidence in academic standards;
- Enable the society to understand the achievements and attributes represented by qualification titles;
- Maintain international comparability of standards;
- Assist learners to identify potential progression routes; and
- Provide higher education institutions reference for setting and assessing standards (QAA, 2001).

QAA is about making sure that appropriate and effective teaching, support, assessment and learning opportunities are provided for students, and that the level of achievement that a student has to reach to gain an academic degree is at a similar level across the UK⁴. According to the framework of QAA (2001), higher education programs have to demonstrate how the design of curricula secures academic and intellectual progression, and to make assumptions about the amount of learning that is likely to be necessary to achieve the intended outcomes. QAA announced that a degree could properly be awarded only when the expectations of the relevant qualification descriptor have been met or exceeded. Meanwhile the Code of practice was implemented in the academic year of 2003-04.

Besides the U.S. and the UK, other countries also have been applying TQM in education. The Norwegian Agency for Quality Assurance in Education (NOKUT) has, from January 2004, comprised evaluation of all higher educational institutions' quality systems in Norway. As an external evaluation organ, it mainly assesses whether the quality assurance system works satisfactorily and is stimulant to improvement. The evaluations are carried out by a committee consisting of external consultants, all experts in their fields, and are given thorough training in the task at hand (NOKUT).

In Thailand, quality assurance policies for higher education were announced in July 1996, and legislated in the 1999 National Education Act. The Office of Education Standards and Evaluation was established for development of criteria and methods of external evaluation, training and certification of external evaluators, submitting reports to the parent organization, developing manuals, running some pilot audits, and establishing performance indicators. All educational institutions (645 in 2002) are required to receive an external quality evaluation at least once every five years (Harman, 2002). In Malaysia, the private sector of educational establishments is accredited through the Ministry of Education's approval and licensing process. Additional quality checks is imposed by related foreign universities. But as the competition for students intensified, the private colleges have sought ISO 9000 certification to further buttress their reputation. And most public universities and colleges have pursued

⁴ See QAA webpage [http://www.qaa.ac.uk/about us/qaaIntro/intro.asp#one](http://www.qaa.ac.uk/about_us/qaaIntro/intro.asp#one)

ISO 9000 certification as the government announced that all agencies and departments must receive the ISO 9000 certification (Abdullah).

While some of the basic principles of TQMI are applicable to education, not every element in TQMI is transferable to TQME. This is simply because industry and academia are two different fields. The important differences between education and industry are as follows (Tribus):

- 1) The school is not a factory;
- 2) The students are not the product;
- 3) Their education is the product;
- 4) The customers for the product are several:
 - a) The students themselves;
 - b) Their parents;
 - c) Their future employers; and
 - d) Society at large.
- 5) Students need to be “co-managers” of their own education; and
- 6) There are no opportunities for recalls.

There are external customers and internal customers in both industry and education. A supplier can be the customer of another supplier. Overlap relations of customer and supplier within the education system are the motives of continuous improvement and quality assurance.

Customer	Supplier	Service
Students	Teachers Administrators Schools/Universities	Classroom Management Curriculum Design Knowledge Delivery Role Model System Development Materials and Equipment Policy
Teachers	Administrators	Materials and Equipment
Parents	Schools/Universities	Knowledge, Wisdom, Know-how and Character of their children
Companies/Society	Schools/Universities	Knowledge, Wisdom, Know-how and Character of graduates

(Source: Deming Related Essays by Myron Tribus).

There are some elements to be added to this chart. First, schools/universities, administrators and teachers provide not only service, but also products, that are programs and courses. The quality of the products are mainly in the hands of teachers. However, the products need to be measured by experts in a professional way for its outcomes, and the feedback is for teachers to improve the quality of products – their teaching. The outcomes should be knowledge, skills and attitudes that customers gain from educational products. So the quality of courses and programs should be judged on students’ performance. For example, how much they understood about the subject, what skills they learned, and

how their attitudes improved. In industry, however, if a customer does not know how to use the product, the supplier will get most of the blame. Second, as internal customers, teachers not only have administrators as their suppliers, but also have other teachers as their suppliers. For example, 1st year teachers can be suppliers of 2nd year teachers, or speaking teachers can be suppliers of reading teachers. If the 1st year teachers have not taught students basic grammar rules or basic words, the quality of their products are not good enough for their customers - the 2nd year teachers. If speaking teachers did not teach their students to say basic sentences, they are not good suppliers for reading teachers. In terms of cultivating students' attitudes, any teacher can be his/her colleagues' supplier. Third, customers of products are not always right. Customers may not know the quality standards of the products. They may not realize which products are most beneficial to them. They may not understand which products are what they need in the future. Or they may not be able to access to the products, and thus cannot make a direct judgment on the products. We can use three models to explain the product/service-customer relations in education.

Model 1

Teacher (supplier) → Course (product) → Student (customer)

Model 2

Teacher/School (supplier) → Course (as service) → Student (product) → Parent/Society (customer)

Model 3

Teacher (supplier) → Course (as service) → Student (semi-product) → Other Teacher (customer)

In model 1, the customers do not necessarily appreciate all the good qualities of the products. Some customers may appreciate more than others. Customers may also appreciate different qualities. In model 2, teachers and schools provide service including facilities, knowledge, skills and rules to nurture the young generation for parents and society. Students' knowledge, skills and attitudes as products have to meet the expectations of their parents and their future employers. In model 3, teachers put their efforts in teaching students all they need at the end of the process. Their work should meet the satisfaction of customers – other teachers next in line of the teaching process.

In order to understand the concept of 'quality', Tribus⁵ compares 'features' with 'quality'. Features are what you put into your product or service to appeal to a particular market segment, for example, computers, laboratories or other facilities. Quality has to do with the way the teaching/learning process is carried forward so that substantial knowledge is delivered to and obtained by students.

Everybody needs quality experience. For college students, their most important quality experience

⁵ Deming Related Essays by Myron Tribus at http://deming.eng.clemson.edu/pub/den/deming_tribus.htm.

is learning – learning in and out classroom, and learning with or without guidance. College education is an “once in a lifetime” experience. Its quality is extremely important to every youth’s capability and attitudes in the rest of his/her life. For teachers, their performance in each class and their professionalism in and out classrooms are all parts of their quality experience. Educational assurance is the quality experience of both teachers and students, and it mainly depends on quality teaching and quality learning.

TQT and TQL in TQME

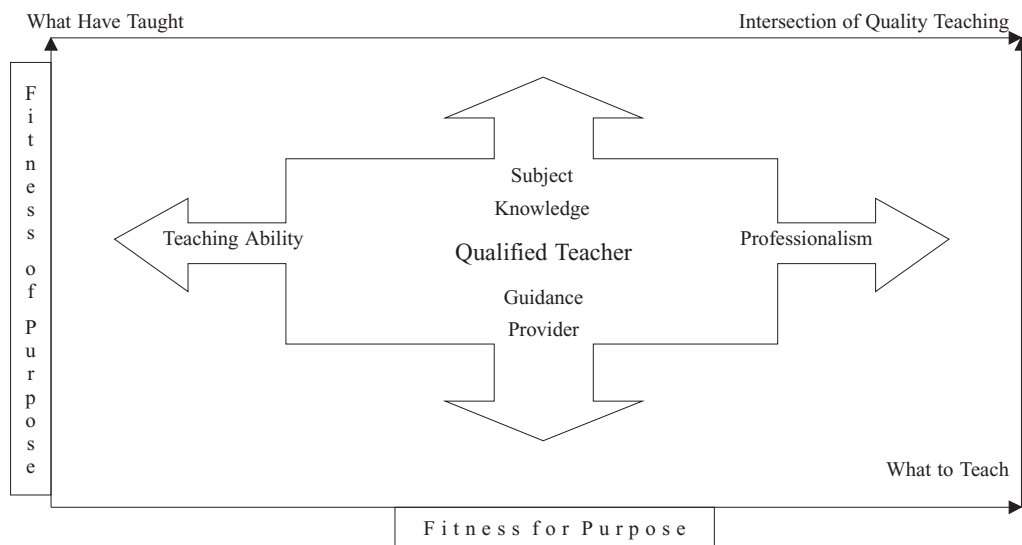
TQME covers quality control in every aspect of education. School administrators play important roles to ensure the quality of an institution. This article, however, only focuses on teaching and learning quality. How teachers and students can ensure total quality teaching (TQT) or quality teaching and total quality learning (TQL) or quality learning while spending their quality time at schools and universities. Quality teaching ensures and improves the quality of learning. Quality learning depends on quality teaching.

Quality Teaching

Quality in teaching is dependent on, to use Robin Middlehurst’s words (Fry, Ketteridge, & Marshall, 1999), both its fitness for purpose and its fitness of purpose. In terms of the former, learning activities and aims need to be matched with relevant disciplines, with students’ needs and interests and with particular contexts. This can be controlled through curriculum planning, textbook choosing, and lesson designing. In terms of the latter, teaching and learning need to be targeted at the level and standards agreed for the program: electives or majors, elementary level or advanced level, undergraduate or graduate. This is controlled by individual teachers’ teaching contents and standards of assessment. The quantity of time that students sit in the classroom under the name of a certain course is irrelevant to the quality of teaching and learning, although it is the premier condition of quality teaching.

Quality teaching means teaching with efficiency and substances. The major elements of quality teaching are knowledge, methodology, responsibility, and enthusiasm. Quality teaching depends on qualified teachers. Darling-Hammond (2000) listed some of the teacher’s qualifications and abilities related to student learning. Teacher’s qualifications include academic ability, years of education, years of teaching experience, subject matter and teaching knowledge, certification, and teaching behaviors in the classroom. Teacher’s abilities are such as verbal ability, adaptability and creativity, subject matter knowledge, understanding of teaching and learning, specific teaching skills, and experience in the classroom, as well as interactions among these variables. Some variables are strongly related to students’ achievement, such as teacher’s verbal ability, knowledge of teaching and learning, clarity, enthusiasm, task-oriented behavior, variability of lesson approaches, responses to students’ needs, the demands of different instructional goals, as well as curriculum goals. However, no single instructional strategy has been found to be unvaryingly successful. While inexperienced teachers are typically less

effective than more senior teachers, the benefits of experience appear to level off after about five years (Rosenholts, 1986; in Darling-Hammond, 2000). Teacher education coursework had a positive effect on students learning and was sometimes more influential than additional subject matter preparation, especially in mathematics and science (Monk, 1994; Perkes, 1967-68; in Darling-Hammond, 2000).



Schools provide education in different categories, such as knowledge, know-how, wisdom, character including honesty, initiative, curiosity, truthfulness, integrity, cooperativeness etc. Basic subject skills for a foreign language include speaking, listening, reading, writing, communicating, and computer application in the foreign language, etc. We may define good teaching as instruction that leads to effective learning, which in turn means thorough and lasting acquisition of the knowledge, skills, and values the instructor or the institution has set out to impart (Felder & Brent, 1999). However, personal qualities for any college student including individual responsibility, self-esteem, sociability, self-management and integrity should also be part of the outcomes of quality teaching.

In short, quality teaching has three elements:

1. Quality time teaching;
2. Quality content delivering; and
3. Quality results ensuring.

Teaching things irrelevant to the program goals, teaching content half way through, or teaching with no results are all defects, and often have to be corrected by other teachers. Sometimes, the defects of teaching can never be corrected, and students are the victims for rest of their lives. A teacher's irresponsibility will not only cause other teachers' time, but also affect students' learning efficiency. A teacher's easy way out of teaching can bring more difficulties for other teachers. These are the "hidden plants" in education, and waste and rework in teaching and learning often cannot be identified.

Quality Learning

The quality of teaching is a key determinant of quality learning. Quality learning is the ultimate test of quality teaching. If the teaching does not enhance students' competence in a subject matter, does not increase students' capacity for critical and creative thinking and action, or does not turn students into independent and autonomous learners, in other words, if the quality learning is not happening, then the very teaching process is not a quality one.

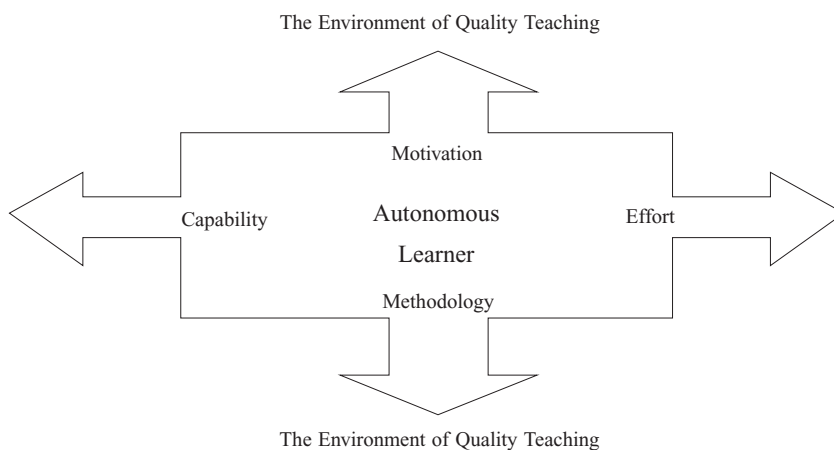
Quality learning (TQL) means learning with clear goals and effectiveness within the capacity of individual students. The major elements of quality learning are motivation, capability, methodology, and efforts including time and focus. The most importantly, the learners are independent and autonomous thinkers and actors. They make constant progress under the guidance of their teachers, and take initiatives all the way along.

Quality learning does not happen itself. As its actors are youngsters, of whom, many either do not have proper attitudes and motivation or do not have a clear goal and suitable methodologies to their learning. On one hand, most students want to do well in school. But they do not know what quality learning is and how important the quality learning to their future life and career. On the other hand, as Felder and Brent (1999) point out that most students dislike difficult homework assignments and examinations, and only a few welcome the challenge.

To a great extent, quality learning depends on quality teaching. A classroom research study (McKeachie, 1999) showed that immediately after a lecture students recalled 70% of the information presented in the first ten minutes and only 20% of that of the last ten minutes (in Felder & Brent, 1999). However, students' attention can be maintained throughout a class session by periodically giving them something to do such as recalling prior material, responding to questions, cooperative learning etc (Felder & Brent, 1999).

Teacher quality plays great role in student achievement. Students learning should be enhanced by the efforts of teachers who are more knowledgeable in their field and are skillful at teaching it to others. Changes in course taking, curriculum content, testing, or textbooks make little difference if teachers do not know how to use these tools well and how to diagnose their students' learning needs (Darling-Hammond, 2000).

It takes constant engagement to wed a student to learning (Tribus). Teacher effects appear to be additive and cumulative, and generally not compensatory (Darling-Hammond, 2000). Teachers' positive effects are prevailing throughout the process of quality teaching in the forms of both cognitive and moral instruction and guidance. The dynamics of quality learning are showed in the figure below.



The goal of TQT in the classroom is to produce students who are committed to the continuous improvement of their skills, knowledge, and whole learning process. Students and teachers work together to ensure quality learning within each subject. Without teachers' facilitation and guidance, the learning process will not have the quality. Without students' commitment and responsibility, the quality will not be learned.

“Deadly Disease” and “Hidden Plant” to Quality Teaching and Learning

The top one “deadly disease” to quality, according to Deming is lack of consistency of purpose. “Hidden plant”, a term used by Feigenbaum, means not doing things right first time that causes huge capacity waste in production. It is also the main “deadly disease” to quality teaching and learning and hidden hindrances to teach and learn efficiently.

1. Lack of consistency of purpose.

Quality teaching should be consistent with quality learning. If there is inconsistency between the two, there is a problem. And the problem is usually a teaching one. The inconsistency exists in many aspects. For example, teachers do not hold the same standards in teaching and grading, or give disparate quantity of content in teaching and homework. Teaching is not consistent with program goals and course objectives. Grades are not consistent with students' real achievement. And teachers' evaluation does not match students' performance. There are other inconsistencies, such as different policies in terms of attendance or lateness, and the difficulties of same level tests. In short, there is no consistency between teaching and learning in the above-mentioned phenomena. In his “In Grade Inflation: A Crisis in College Education”, Johnson (2003) concludes that disparities in grading affect the way students complete course evaluation forms and result in inequitable faculty evaluations. He found that students

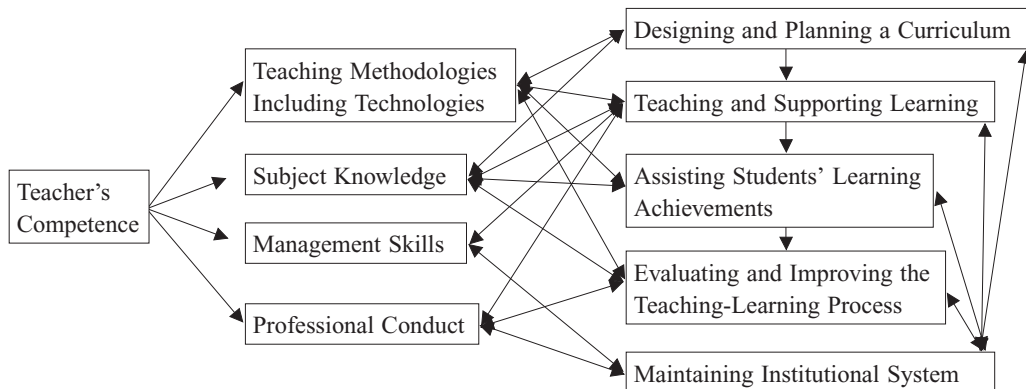
were less likely to enroll in classes in which it was more likely they would earn lower grades, and unregulated grading penalized students who enroll in demanding courses. Students are able to manipulate their GPA through the choice of their classes rather than through their efforts. So the inflation of grades is consistent with deflation of teaching and learning quality. To avoid this, we need more principled grading practices and linkage between faculty evaluations and student achievement.

2. Not getting things right first time.

There are two kinds of situations that not getting things right first time, one caused by the lack of experience or resource, the other caused by irresponsible behavior or the easy way out. In preparing teaching, a teacher may choose the wrong materials because s/he thought that was the best resource that could be found. A teacher could also choose the materials because the suitable ones are not available. But there are other times when the situations are totally different. For example, a teachers' chooses a certain teaching material simply because s/he used it before so there is less preparation involved. Or it might be because the material will result in a better evaluation. In doing this, both teachers' and students' capacities are wasted dramatically. Teacher wasted his/her quality teaching time not accomplishing the teaching goal and course requirement. Students wasted their quality learning time for not learning the right things at the right time. Courses within a curriculum and contents of courses are usually arranged in a systematic and progressive way. Quality teaching and learning have their own rules and procedures. The capacity waste and rework caused by arbitrary changes are difficult to measure, but their cost can be huge. It also may reduce students' learning or interesting in learning certain kind of knowledge.

Assurance of Quality Teaching and Learning

Competence is at the heart of professionalism. The assurance of quality teaching and learning, to great extent, depends on teachers' competence. The competence of a teacher covers various areas including subject knowledge, teaching methodologies, professional conduct, and management skills. With the competence of teachers, the competence of students can be gained and improved, each step in educational process will follow the direction of professionalism, and then quality teaching and learning can be assured. The following figure shows the relationships between teachers' competence and education assurance.



(Reference: Fry, Ketteridge, & Marshall, 1999).

Subject knowledge is the premise of teachers' competence. Without it, teachers have nothing academic to offer to their students. Subject knowledge includes the knowledge of both subject matter and pedagogy, which is a compulsory course for teachers. The whole teaching process from designing, planning and teaching to assessing students' achievement, and evaluating and improving the teaching and learning is underpinned by teachers' subject and pedagogical knowledge. In this way, the appropriateness and substance of teaching materials can be ensured. Teachers may teach students only a small part of what they know about the subject, however, more knowledge of the subject enables teachers to have deep insights to various issues in the field, and to meet the variety of students' needs. Some studies have found that students achieve at higher levels and are less likely to drop out when they are taught by teachers with a certification in their teaching field and with a master's degree (Darling-Hammond, 2000).

Teaching methodologies are not the only tools for delivering the teaching materials, but also the measures affecting curriculum designing, course conducting, student achievement assessing, and teaching and learning improvement. One of the most important standards of good teaching methodology is the efficiency of content delivery and the quality and quantity of knowledge and skills students gained from a course. Teaching can be delivered in numerous ways as long as the pedagogical goals are reached, and individual competence is called for. Good means should provide good results. Functional teaching methodology shows a strong connection between what is taught and what is learned. L2 teachers apply means from various perspectives such as linguistic, cognitive, pragmatic, interactive, socio-cultural, and sociolinguistic perspectives (Mitchell & Myles, 2004). However, insights of L2 teachers have contributed to the development of a communicative approach to the second language acquisition (SLA). In order to facilitate independent communication by the learner, the communicative SLA has the following characteristics (Fry, Ketteridge, & Marshall, 1999):

- Grammar as a facilitator of communication;
- Phased development from pre-communicative to free communicative experiences;
- Inductive learning of grammar;
- Maximum use of the target language;

- A focus on meaning;
- Language used for a purpose;
- The foregrounding of learners' needs;
- Personalization of language;
- The creative use of language;
- Learner interaction;
- The use of authentic language and materials;
- A mixed-skill approach to teaching and assessment.

As grammar and knowledge 'about' language are no longer seen as ends in themselves, grammar is not taught deductively by artificial isolation and presentation of a series of rules, but inductively by the identification of useful patterns within content-focused language. It is a question of identifying rules from examples rather than creating examples on the basis of a presented rule. In recent years, IT has become more and more involved in teaching and learning. It is worthwhile spending time acquiring those IT skills that are most relevant. Some of the IT activities are becoming common practice of more efficient ways of teaching and learning, such as:

- Computer-generated presentations;
- Electronic publication of lecture notes;
- Using computer-based learning programs;
- Word-processed lecture notes;
- Using e-mail communications for class management and exchange;
- Research using the Web or CD ROM;
- Accessing electronic journals;
- Running or participating electronic discussion groups; and so on (Fry, Ketteridge, & Marshall, 1999).

Teachers often play multiple roles in students' life, such as the roles of tutoring, coaching, supervision, and facilitation. There is a saying in Chinese "Jiao Shu Yu Ren," meaning teachers are both cognitive mentors and moral mentors to their students. Teachers' professional behaviors are not limited inside classroom, but beyond. The professional conduct code applies to any student-involved issues. It is difficult to be convinced that a teacher who misbehaved outside the classroom shows professionalism in the classroom. What are professional behaviors? To name a few, they are responsibility, enthusiasm, fairness, honesty, etc. In practice, they mean that teachers have to do everything for the best interest of students, and be ready for students when they need guidance. Teachers have to be fair to every student under no condition, for example, fairness in grading and providing opportunities to all students. Dishonesty is an intolerant behavior to anybody in society. Teachers' dishonest conduct causes damages not only to teachers themselves, but also the young generation as well. The worst part is that it destroys the institutional system and ruins the image of faculty and university's reputation. In the U.S., college students have to sign an honor code during the orientation; any dishonest behavior would be severely punished including dismissal. The same rule applies to faculty members. In short, teachers' professional conduct has a tremendous influence on quality teaching and learning as well as the system of the

institution.

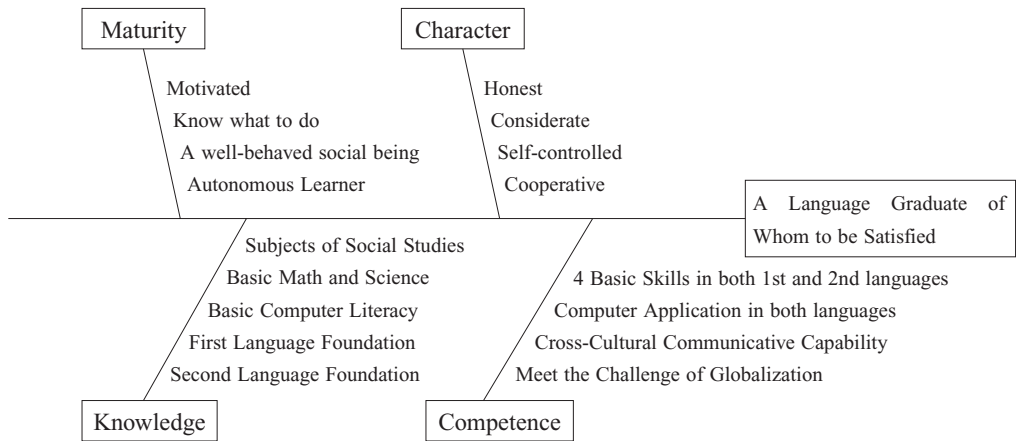
Every teacher is a manager of teaching and learning. Teachers' management skills include discipline, classroom management, choosing and balancing the quality and quantity of teaching materials including students' homework, coordinating courses taught by individual teacher or others and all other related activities within the institutional context. Management skills are very important in teachers' daily teaching, starting from making choices for what to teach, how much to teach, what taught first, and how to teach. More importantly, "organizing teaching is really about designing learning" (Vaneeta-Marie D'Andrea, in Fry, Ketteridge, & Marshall, 1999). Students benefit from good management of teaching in learning more knowledge and skills and learning more efficiently.

The five areas of academic circle in the figure above are within the accreditation framework of a higher education institution. Similarly, Felder and Brent established a TQM type six-step plan for assurance of quality teaching based on Rogers and Sando's five-step model (Rogers & Sando, 1996; in Felder & Brent, 1999):

1. Defining the knowledge, skills and values that the graduates of the program should have;
2. Defining the instructional methods most likely to lead to the acquisition of the desired attributes; and selecting the methods needed to assess the effectiveness of the instruction;
3. Providing both the necessary resources to initiate and sustain the program and appropriate incentives for faculty members to participate;
4. Formulating a detailed implementation plan;
5. Implementing the plan; and
6. Assessing the results and modifying the plan as necessary to move closer to the desired outcomes.

Each step is outcome-based; and teachers' competence is directly connected to every part of the routines. When designing and planning a curriculum, teachers should focus on goals – the outcome of graduates, and make the goals achievable for every student. This means that the goals can be reached at different levels. Thus at the next step, teachers give directions to students based on their needs with positive enforcement. This is very much time-consuming. But teachers have to try their best. It is the teachers' duty not to leave any students behind. Assessing students' learning achievement involves how to assess and what to assess. They should be relevant and standard, meaning assessing what is supposed to be taught and learned at the right level. And if we put this into a big picture, there are many aspects of student achievement to be evaluated since they are going to spent 4 year quality time at the university.

Ideal Outcome of a Quality L2 Education



(Adapted from Tribus, Quality management in education)

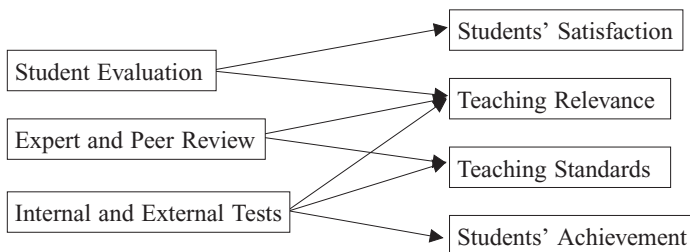
In reality, most of above-mentioned traits can only be ensured in various measures. The areas of possible assessment are scholarship, research, applied knowledge, pedagogical practice, communication, critical reflection and so on (Nicholls, 2001). The assessments of a L2 program more or less focus on competence.

Assessment and evaluation are important systems to ensure quality teaching and learning. There are different trends in assessment, such as standardized tests, performance-based assessments, teaching-based models, learning-based models, an add-on assessment, and naturalistic approaches embedded in actual instructional delivery. Measures of assessment include tests, performances and exhibitions, project reports, learning logs and journals, interviews, and conferences (Ewell, 1998; Burke, 1993, in Felder & Brent, 1999). A particularly effective learning assessment vehicle is the portfolio, a set of student products collected over time that provides a picture of the student’s growth and development (Felder & Brent, 1999).

Most institutions use only end-of-course student surveys to evaluate teaching quality. Classroom assessment when appropriately conducted can improve and promote student learning as well as gauge and measure student achievement. While students’ opinions are important and should be included in any assessment plan, meaningful evaluation of teaching must rely primarily on assessment of learning outcomes. As Felder & Brent (1999) point out, “The ‘customers’ of a university clearly cannot always be right, and they may sometimes be completely wrong. The goal of customer satisfaction that makes so much sense in a corporate environment consequently makes little sense at a university.”

In order to see the whole picture of the teaching-learning process, there should be four main criteria for evaluation. Two of them are the same criteria of assessing students’ achievement: teaching relevance and teaching standards; the other two are students’ satisfaction and teaching outcome. Although relevance and standards of teaching cannot be altered arbitrarily, instruction has to be based on students’ level in general. Students’ satisfaction plays important role in their motivation and efforts, thus outcome as well. Last but not the least, learning outcome or students’ achievement ought to be the

most important part of teaching evaluation. The four aspects of teaching and learning can be evaluated the ways shown in the following figure:



In this way, the process of evaluating teaching and learning will bring out the concrete improvement of education.

It takes a quality experience to create qualified teachers and independent learners. Students' quality learning has to be the priority of teaching. In other words, teachers have to provide quality teaching instead of feature teaching. It takes time for students to understand quality and to become critical and keen on quality only then the quality teaching and learning are equipped to improve.

Conclusion

Total quality is a philosophy that originated in industrial circle. However its core concepts – totality and quality are applicable to educational management, teaching and learning process. And its spirit of continuous improvement is the key to quality teaching and learning. The outcomes of the quality teaching are both qualified teachers and ever-improving quality instruction. And the outcomes of the quality learning are both autonomous learners and ever-improving achievements.

Different from TQMI, suppliers, products, customers and their relations in TQME are more complicated depending on which angle to look at them from. When courses are considered as products, students are the customers. When students with added knowledge, skills and attitudes they are considered as products, their parents and future employers become customers. Teachers can also play the roles of both suppliers when delivering courses and customers when they work with pre-taught students.

In the process of quality teaching, teachers' competence and their consistency with teaching goals and objectives are extremely important whereas in the process of quality learning, autonomous learners are the key. But teachers are fundamentally responsible for both quality teaching and quality learning in terms of designing, delivering, and improving the whole process.

As professionals, teachers should pursue quality not deflated features in their teaching, though it may take time and experience for students to distinguish quality from devalued features, and truly appreciate a quality teaching. After all teachers are supposed to do everything right first time for students according to professional conduct code. When teachers and students work together to identify goals, make improvements, and spend their quality time in pursuing knowledge and skills with enthusiastic attitudes, quality education will be ensured.

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