

## Understanding the quality concept in the higher education

*Jitka Smutná<sup>1</sup> and Radim Farana*

*This contribution aims to present the self-assessment system, developed at the Faculty of Mechanical Engineering VSB-TU Ostrava during the application of Quality Management System [Farana 2008] and TQM System, based on the effective use of the EFQM Excellence Model [Hutyra 2004] and compare it with the self evaluation process at the Queen Mary, University of London. Main parts are questionnaires for students in different periods of the educational process. It sheds light on the instrument that aims to understand the students' experience and to identify how much of the growth and development can be attributed to the quality university experience that the institution provides for its students.*

**Key words:** EFQM Excellence Model, Total Quality Management, self assessment.

### Introduction

On the current world market, both manufacturers and consumers require guarantees for the quality of products and services. Now it is no longer sufficient to provide products and services that conform to certain standards. All manufacturers and service organizations need to demonstrate their capability to provide a continuous quality for their products and services. This is why all businesses and public organizations need to set up quality systems enabling them to guarantee that required quality is obtained at the appropriate cost, and also taking ecological concerns into consideration.

### Applying the quality framework

In the 1920's statistical theory began to be applied effectively to quality control, and in 1924 Shewhart made the first sketch of a modern control chart. His work was later developed by Deming and the early work of Shewhart, Deming, Dodge and Romig constitutes much of what today comprises the theory of statistical process control (SPC). However, there was little use of these techniques in manufacturing companies until the late 1940's. (Evans, 2002).

Deming also encouraged a systematic approach to problem solving and promoted the widely known Plan, Do, Check, Act (PDCA) cycle. The PDCA cycle is also known as the Deming cycle, although it was developed by a colleague of Deming, Dr Shewhart.

At that time, Japan's industrial system was virtually destroyed, and it had a reputation for cheap imitation products and an illiterate workforce. The Japanese recognised these problems and set about solving them with the help of some notable quality gurus – Juran, Deming and Feigenbaum.

In the early 1950's, quality management practices developed rapidly in Japanese plants, and became a major theme in Japanese management philosophy, such that, by 1960, quality control and management had become a national preoccupation.

By the late 1960's/early 1970's Japan's imports into the USA and Europe increased significantly, due to its cheaper, higher quality products, compared to the Western counterparts. Quality

In 1969 the first international conference on quality control, sponsored by Japan, America and Europe, was held in Tokyo. In a paper given by Feigenbaum, the term "total quality" was used for the first time, and referred to wider issues such as planning, organisation and management responsibility. Ishikawa gave a paper explaining how "total quality control" in Japan was different, it meaning "company wide quality control", and describing how all employees, from top management to the workers, must study and participate in quality control. Company wide quality management was common in Japanese companies by the late 1970's. (Oakland, 2003).

The quality revolution in the West was slow to follow, and did not begin until the early 1980's, when companies introduced their own quality programmes and initiatives to counter the Japanese success. Total quality management (TQM) became the centre of these drives in most cases.

---

<sup>1</sup> Jitka Smutná, Radim Farana, Faculty of Mechanical Engineering, VSB – Technical University of Ostrava, Czech Republic, [jitka.smutna.st@vsb.cz](mailto:jitka.smutna.st@vsb.cz), [radim.farana@vsb.cz](mailto:radim.farana@vsb.cz)  
(Review and revised version 23. 2. 2010)

In a Department of Trade & Industry publication in 1982 it was stated that Britain's world trade share was declining and this was having a dramatic effect on the standard of living in the country. There was intense global competition and any country's economic performance and reputation for quality was made up of the reputations and performances of its individual companies and products/services.

The British Standard (BS) 5750 for quality systems had been published in 1979, and in 1983 the National Quality Campaign was launched, using BS5750 as its main theme. The aim was to bring to the attention of industry the importance of quality for competitiveness and survival in the world market place.

Since then the International Standardisation Organisation (ISO) 9000 has become the internationally recognised standard for quality management systems. It comprises a number of standards that specify the requirements for the documentation, implementation and maintenance of a quality system.

TQM is now part of a much wider concept that addresses overall organisational performance and recognises the importance of processes. There is also extensive research evidence that demonstrates the benefits from the approach.

As we move into the 21st century, TQM has developed in many countries into holistic frameworks, aimed at helping organisations achieve excellent performance, particularly in customer and business results. In Europe, a widely adopted framework is the so-called "Business Excellence" or "Excellence" Model, promoted by the European Foundation for Quality Management (EFQM) and in the UK by the British Quality Foundation (BQF)."

### Application of the quality management system in the higher education

#### VSB- Technical University of Ostrava, Czech Republic

At the Faculty of Mechanical Engineering, VŠB – Technical University of Ostrava, Czech Republic, there are implemented quality assurance approaches such as the Quality Management System, which was certified in the year 2005, Total Quality Management (Excellence System), according to the EFQM Excellence Model applied in the year 2006, or the benchmark project, realized with many technical faculties from the Czech Republic and other countries. All these concepts aim to the same goal thus to create functional continuous quality improvement process at the faculty.

A main part of the self assessment processes present questionnaires for students in different periods of the educational process. The main questionnaire is focused on student satisfaction with individual subjects and teachers. This questionnaire has been used since the year 2003, in electronic form and obtained data are yearly summarized, (fig. 1). The meaning of individual criterion is evident from the questionnaire form, available on the faculty web: <http://www.fs.vsb.cz/dotaznik/dotaznik1.asp>.

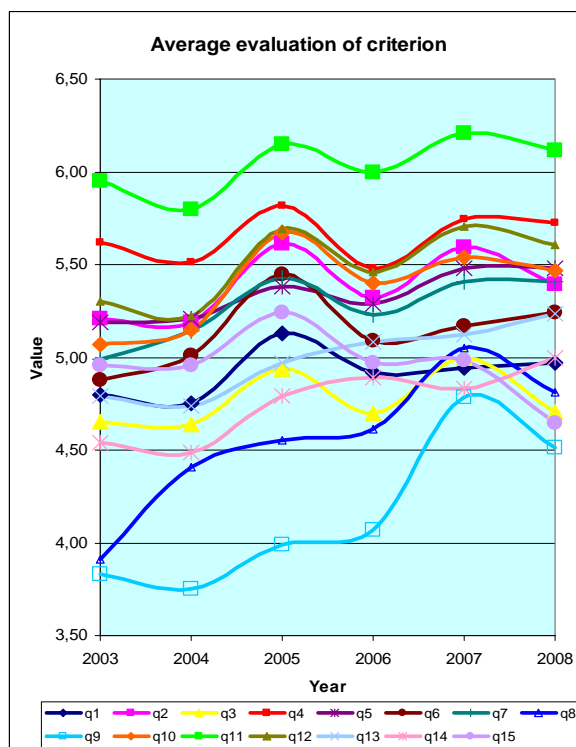


Fig. 1. Results from the student satisfaction questionnaire.

The decreasing number of respondents is very embarrassing, in spite of the massive promotion done by the Student Chamber of the Faculty Academic Senate in the year 2006. The presented results show some fluctuations (fig. 1), but the gradient of all criteria is positive. To increase student interest in this questionnaire, the deans' answers and comments to students' questions are published in the discussion forum, part of faculty web information system.

### **Queen Mary, University of London, Great Britain**

National developments in quality assurance in higher education in the UK are taken forward by the Quality Assurance Agency for Higher Education (QAA) on behalf of the HEFCE - Higher Education Funding Council for England.

The Quality Assurance Agency for Higher Education (QAA) exists to safeguard the public interest in sound standards of higher education (HE) qualifications and to encourage continuous improvement in the management of the quality of HE.

To do this QAA carries out reviews of individual HE institutions (universities and colleges of HE).

At the Queen Mary, University of London student opinion is key if quality assurance is a continual and "bottom-up" process which assures and improves academic standards, the learning experience and opportunities for student achievement. Students are represented on most major committees at Queen Mary, they participate in Internal Reviews and departments or programme areas are required to have in place mechanisms for obtaining student feedback

### **Student Feedback Questionnaires**

The purpose of this procedure is to ensure that there is systematic collection of students' views on the education provision that the College provides.

This procedure covers all Queen Mary based taught undergraduate and postgraduate programmes plus courses that the College contributes towards intercollegiate programmes. It does not cover research degrees or non-award-bearing continuing education, although it is considered best practice to systematically gather research students' views on their experiences, usually as part of their annual review.

The Head of Department, or equivalent, should ensure that there is in place a systematic and formal procedure for giving students the opportunity to feed back views of the education provision offered by the Department, e.g. through the use of evaluation questionnaires.

Although feedback is gathered by a variety of means, including informal staff/student discussions, focus groups and Student-Staff Liaison Committees (SSLC), the use of questionnaires can be one of the most effective. Questionnaires should be used to gather student feedback on every recently completed course of study, although a systematic method of gathering feedback on whole programmes from recent graduates is also considered good practice. The purpose of gathering feedback is to monitor, from the students' perspective: the quality of teaching and course organisation on individual courses; the level of resource allocation and students' commitment to their course/programme. In order for students to fully engage with the process, they need to feel that expressing their views will make a difference to present and future provision. Hence summaries of their feedback as well as responses to any concerns raised should be made available to them via departmental notice boards, on the web and through the SSLCs.

Student feedback is an integral part of the new QAA review procedure and the QAA and HEFCE have indicated that they expect students' views to be a part of the information on courses and programmes published on Higher Education Institutions' web pages (Quality Assurance Handbook, 2008).

### **Conclusion**

Orientation on the system Total Quality Management extended the way to the Quality Management System using more new possibilities. A great number of opportunities for improvement were identified in the orientation on the students and staff satisfaction.

The university must especially observe, analyze, find out new solutions, apply adequate changes in structure and management, and above all observe and verify the influence of our decisions. One of the principal features EFQM Excellence Model is the possibility to compare the achieved results with other participants in the Program of the Czech Republic Quality Award, including industrial companies; it means our partners and also very important customers.

These external evaluations show that the orientation on applying the TQM system at the university and faculty is successful and gives new sources for advancement.

### References

- Evans, J. R.: Total quality management, organisation and strategy. *South-Western*, 2002. ISBN 0324178719.
- Farana, R.: The Total Quality Management System Application to the Faculty Management System Improvement, *International Conference on Engineering Education, Pécs, Hungary, 2008*. 9. pp. ISSN 1562-3580. ISBN 978-963-7298-20-2.
- Hutyra, M.: EFQM Excellence Model application for the university self-assessment process (in Czech), *AULA, year 12, special number, 2004*, s. 18-23. ISSN 1210-6658.
- Nenadál, J.: Advantages and weaknesses of self-assessment and proposed gross progress of university self-assessment process (in Czech), *AULA, year 12, special number, 2004*, s. 24-40. ISSN 1210-6658.
- Oakland, J. S.: Total quality management: text with cases. *Butterworth-Heinemann*, 2003. ISBN 0750657405.
- Quality Assurance Handbook, Queen Mary, *University of London*, 2008.
- Smutná, J., Farana, R.: Quality Assurance Approaches in the Higher Education, *Transactions of the VŠB-Technical University of Ostrava, Mechanical Series, LIV, 2008*. No. 2, article No. 1634, pp. 135-140. ISSN 1210-0471.