

## POSSIBILITIES OF QUALITY MANAGEMENT SYSTEM APPLICATION AT THE UNIVERSITY

**Edita Hekelová**  
**Slovak University of Technology**  
**Bratislava**  
**Slovak Republic**

### **SUMMARY**

*This contribution is aimed to the effort and possibility to apply the basic principles and rules of quality management philosophy in higher education, resp. in education generally. As an object is selected the department Quality Management at the Faculty of Mechanical Engineering, Slovak University of Technology in Bratislava. Department we consider as the basic element in the higher education system having direct impact on its quality.*

**Keywords:** quality, process model, education

### **1. INTRODUCTION**

In our opinion the quality management system at the university can be based on the ISO 9000 standards requirements. This standard was originally developed for the industry, but it has proved that it is possible to use it also by academic institutions.

ISO 9000 series of standard define a means through which an organisation may define its methods of operation in order to provide assurance to its customers that the quality of its results will be consistently delivered.

It is important to recognise that ISO 9000 does not set levels of achievement to be attained. Nor does it provide any guarantee that the perceived quality of an organisation applying its requirements will result in a service which is better than competitor offerings.

Standards ISO 9000 is simply a means of creating and managing an information loop which constantly applied will result in prediction and elimination of problems before they adversely affect the output of the organisation.

### **2. QUALITY MANAGEMENT PROCESS MODEL FOR AN UNIVERSITY**

We realise that ISO 9000 for quality management system building does not suit every organisation and every type of organisation. But it is not correct to reject the concept on the basis that some of the requirements are difficult to address. In our country in the present the standards ISO 9000 mostly use the industrial organisation, by the way only 4 educational institutions have the certificate by that standard. The old set of the standards ISO 9000 maybe really was more suitable for the industrial enterprises, but the new set of that standard ISO 9000:2000 (today version 9001:2009 or 9004:2010) because of its process approach can be use as the base for the quality management system at the university or higher education in generally.

We go out from the fact that for the continual improvement of quality of education can be very useful the Quality Management Process Model, which contains:

**Management responsibility** - there must be define all activities and processes and their priorities, equally must be defined the particular responsibilities and authorities and this must be done on each level

**Resource management** – it means financial resources, funds or capital and human resources as well - of course, provided there are any at the university

**Product and services realisation** - it must be based on the requirements of customers. Now we solved the question - who is customer? It is Ministry of Education? It is the student? It is the labour market? In final solution we stated as the customer of educational institution the labour market. Ministry of Education must have interest in order to the graduates do well on the labour market, the students want to do well on the market. It means the industry and the practice must be satisfied with the graduates as the labour force.

In this stage is possible to utilise some of the total quality management methods, e.g. Quality Function Deployment, benchmarking, maybe reengineering, philosophy Kaizen, SWOT analysis etc.

The basic slogan of the Japanese philosophy KAIZEN is:

„Wherever in the organisation occurs an improvement, finally it leads to the quality improvement of the resulting production“

It is the reason, why everybody in the organisation must know in continuity with quality management system (at the university as well):

- What to do?
- How to do it?
- Why to do it?
- When to do it?
- Where to do it?
- Who has to do it?

That is the matter of the motivation, communication, quality strategy, training and education and it is in the competence of managers.

Those methods are suitable by the application the Business Excellence Model typified by the European EFQM or the Malcolm Baldrige award, which are complementary to ISO 9000 rather than being an alternative.

**Measurement, analysis, improvement** - in the quality management is very important to be able to measure the achieved results. In the educational processes it is not so easy immediately to measure the results. But it does not mean, that we have not to do it. The feedback is alpha and omega in quality improvement process, without feedback we can not know whether the customers are satisfied or not.

### **3. FEEDBACK FOR QUALITY EVALUATION**

In our research work we have concentrated by the known Juran´s loop of quality management just to the feedback it means to the following of customer satisfaction and its requirements. On that basis we want continuously improve, innovate or modify the study programme, methods and form of the educational process.

In the next text we present some results from our questionnaire investigation from more than 100 Slovak industrial organisations, concentrated on the satisfaction of the organisation with the quality of the graduates of Slovak University of Technology.

Question: Do you prefer the narrow specialisation or the wide range of knowledge (wider background)?

Answer: 21 % prefer the narrow specialisation, 79 % prefer the wide range of knowledge

Question: which technical university is for you the most reliable?

Answer: Slovak University of Technology in Bratislava (from 5 possibilities in SR)

Question: Do you monitor which particular curriculum had the graduate - applicant for employment during the university study?

Answer: 95 % of the organisations monitor the curriculum

Question: which characteristics or skills do you prefer at the technical university graduates?

Answer:

1. creativity
2. foreign language skills
3. ability to work independently
4. computer skills
5. responsibility
6. flexibility
7. being in the know about the new trends of relevant branch
8. ability and willingness for the further education
9. communication skills
10. to be cultured and fair (decency)

Question: Which characteristics or skills do you miss at the technical graduates?

Answer:

1. foreign language skills
2. ability to work independently
3. creativity
4. responsibility
5. flexibility
6. being in the know about the new trends of relevant branch
7. communication skills
8. computer skills
9. ability and willingness for the further education
10. to be cultured and fair (decency)

Question: Which priorities do you consider as the most important for the good quality preparation of the graduates for practice?

Answer:

1. intense co-operation between university and practice
2. involvement of the students to the research and practical problems solution
3. innovation of the curriculum
4. involvement of the students to the international activities and projects
5. lay stress upon the better communication and behaviour of the students

As mentioned above, the quality management - and quality management in higher education as well - is based on the feedback from the customers. When we determine that the customer of the products university is the work market (and in continuity with technical universities

mostly the industrial organisations), these results is necessary to respect in curriculum creation, methods and forms development of the educational process etc. to increase the quality of higher education.

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