

# QUALITY MANAGEMENT OF TEACHING – LEARNING PROCESS AT THE TECHNICAL UNIVERSITY OF KOŠICE (SLOVAKIA)

*Assoc. Prof. RNDr. Michal Blaško, PhD*

*Prof. MEng. Pavel Raschman, CSc.*

Technical University of Košice, Slovakia

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## Abstract

The purpose of this paper is to provide some basic information on the methods applied in the management of quality assurance in the delivery of higher education at the Technical University of Košice. The aim is to present programs and results of the course in the quality management of teaching to ensure the quality of university teachers as one of the areas of the internal quality system of a higher education institution.

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**Keywords:** Teacher professionalism, quality management system of teaching

## Introduction

In accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area as an integral part of the internal quality assurance system of higher education it is required that a higher education institution have proper tools available to confirm that teachers have all the necessary competences and capabilities to be able to deliver higher education and to encourage them to improve their professional performance. In the Report on the State of Education in Slovakia and Systematic Steps to promote its further development (Slovak Ministry of Education, 2013) it is stated that it is necessary to systematically require universities to ensure the quality of university teachers (the role of university-2-3).

Quality in education requires scientific management with a clear concept of development and above all with high quality teachers able to transform education from “the bottom up”. Many existing approaches and models of quality schools and teaching were focused on the management based on top-down approach mostly. The preference of the top management style (orders, instructions) results in poor co-operation of teachers, which is one of the key requirements of quality management. It is therefore necessary

to design and implement quality management systems not only to ensure the accountability of school staff, but also to promote the quality culture of schools through application of a combined strategy, using both, i.e. the approach of quality management from the top down and from the bottom up. The quality of schools is most closely connected with the quality of their teachers. Problems related to the quality of education are associated primarily with ensuring working conditions for teachers as well as teacher competences.

Communication from the Commission to the European Parliament on the Rethinking of Education COM (2012) 669 final of 20.11.2012 in Strasbourg calls appeared to support European teachers: „Teachers face rapidly changing demands, which require a new set of competences for teachers, teacher educators and education leaders. It calls for strong action to support new approaches to teaching and learning.

High quality and well trained teachers can help learners develop the competences they need in a global labour market based on ever higher skill levels, and evidence shows that a primary influence on learners’ performance is the quality of teaching and learning. The quality of teaching is a critical issue in higher education. “

How to ensure the implementation of quality management for teachers in educational activities?

## **Methods**

At the Technical University of Košice, we decided to address these issues by providing quality management courses for teachers along with the application of the quality management system in teaching. The idea to run a course Quality Management of teaching was inspired by the fact that university teachers are expected to be successful in research and at the same time in the delivery of high quality education to students, with teaching being a lesser part in the professional development of university teachers.

The basis for our quality management system of teaching, which was created based on research and practical experience of teaching at different types of schools over the past 30 years in Kosice and completed at the Technical University of Kosice, is a creative and humanistic concept of education and principles of quality teaching management derived from the principles of TQM (Total Quality Management). The driving mechanisms of excellence in teaching include intrinsic motivation, self-evaluation and one’s own creativity, which are applied in educational activities of the teaching system using PDCA (Plan - Do - Check - Act) cycle.

The aim of the course of the quality management of teaching is to motivate university teachers to teamwork, to create such an atmosphere in which teaching and learning are successful, to ensure satisfaction of both

students and teachers, to contribute to a higher success rate of study at university and professional development (key and vocational) of students' competences for lifelong learning.

The course graduates have to

- understand the importance and possibilities of the management of quality teaching, critically evaluate and apply it systematically in their teaching practice (particularly in lectures, seminars, workshops and tests), creatively develop it in their work;
- create their own quality program of teaching with an defined mission, objectives and contents of the course, with the application of appropriate teaching strategies, self-assessment and controlling mechanisms.

The objective of the course is to support university teachers

- in creating their own program of quality teaching based on the didactic analysis of the curriculum taking into account the requirements of stakeholders for vocational and key competences;
- in a comprehensive, systemic approach to the learning process to be able to intrinsically motivate students to learning;
- in developing students' creativity respecting their learning styles through systematic application of constructive and metacognitive strategies in teaching using elements of e-learning, project and cooperative teaching;
- in counselling activities for students in academic issues;
- in continuous upgrading of their professionalism by further study, research activities, publishing the results of their work;

The contents of the course include lectures and practical classes focusing on key quality issues in education, presentation of experience of university teachers as well as subsequent debates and discussions. The course curriculum is designed to focus on the following key elements:

Quality and concepts related to quality management. The history of quality management. Major personalities of quality management and their contribution. Models of quality management. The quality of education. The quality of school and quality of teaching. Internal quality assessment of school and teaching. Mission, objectives, values, vision and strategic planning of school. Self-evaluation of the quality of school, teaching, teacher, student. Methods used for quality management of school and teaching. Preparation of the teaching program, key and vocational competences. Options for improving the quality of teaching in lectures, classes, seminars, exams. Teaching skills and learning styles of students. The quality management system of teaching.

The course participants were selected by the vice-deans for education in approximately equal number from each of the nine faculties of the Technical University. Participants were divided into four groups with about

20 teachers and academic officials from all faculties of the Technical University in each group. The pilot course of the quality of teaching started in June 2011 and was completed in September 2012.

The course participants were provided with textbooks Quality Management of Teaching at Universities (Turek et al., 2011) developed with financial support from the European Social Fund through the operational program Education. A website was launched at the Department of Engineering Pedagogy of the Technical University where participants could learn more about the quality of teaching:

(<http://web.tuke.sk/kip/main.php?om=1300&res=low&menu=1310>)

Each course group attended 25 classes for approximately one semester (5 meetings x 5 classes). At least 80% attendance at classes was required which was essential for achieving the goals of the course.

In addition to designing a teaching program with a quality management approach by each of the participants, they could choose and develop one of the other proposed projects. Every participant was required to prepare and submit a report on the project which he/she had undertaken. For example:

- Student evaluation of teaching. The course participants proposed or edited the already developed questionnaire to suit their own conditions for the evaluation of teaching units or teaching in a given time interval. The questionnaire was then given to students to be completed and the feedback was evaluated.
- Implementation and evaluation of PDCA cycle in teaching. The participants had to devise a small innovation in their teaching, implement it in their teaching practice and evaluate it.

66 participants took their final exams (in 4 groups of the course). After successful completion of the course, participants from all four groups received certificates on the completion of the course awarded at the ceremonial meeting by the Rector of the Technical University.

Each of the course graduates regularly assessed individual modules through questionnaires as well as the course as a whole.

## Results:

At the end of the course participants were presented a questionnaire to evaluate the course (the figure in brackets is the percentage of responses from the selected 66 participants):

1. What is your opinion on offering the course for all teachers at the Technical University?
  - a) strongly agree (50%)
  - b) agree (42,5 %)
  - c) disagree (1,5 %)
  - d) strongly disagree (0 %)

- c) can't say (6 %)
2. Do you think that taking the course Quality Management of University Teaching will be for application in your teaching practice
- a) very useful (35 %) d) somewhat useful (0 %)
- b) useful (63,5 %) e) not useful (0 %)
- c) don't know (1,5 %)
3. I assess my work in the course as
- a) excellent (6 %) d) weak (3 %)
- b) very good (50 %) e) unsatisfactory (0 %)
- c) good (41 %)
4. With the completion of the course Quality Management of University Teaching I am
- a) extraordinarily satisfied (12 %) d) somewhat satisfied (0 %)
- b) very satisfied (80 %) e) dissatisfied (0 %)
- c) satisfied (6 %)
5. Try to describe an ideal way of organizing and delivering the course Quality Management of University Teaching that would meet your wishes and expectations.
6. What do you recommend to focus mainly on when delivering the course Quality management of University Teaching?

In the questionnaires about the final evaluation of the course all 66 graduates declared their general satisfaction up to extraordinarily satisfaction.

Almost all graduates of the course clearly presented their opinion that the completing of the course will be useful or very useful for their further teaching practice.

93% of the graduates agree or strongly agree with the inclusion of the courses for all teachers of the Technical University.

In the individual lessons the participants particularly appreciated the attractiveness of the topics of the course on quality, the professional approach of lecturers, their enthusiasm for the issue, their ability to attract, the high quality of computer presentations on particular topics of the course, the communication in the lessons, the possibility of open discussions on current issues in the undergraduate education, but also they highlighted the pleasant social climate in the lessons of the course.

The results of the course will be also applied in the finalisation of the quality management system for the undergraduate education due to current analyses and comments from the course participants.

According to the experience and comments from the course participants of the initial, pilot course we developed a new course of Quality Management of Teaching in 2014 under the operational program Education at the Department of Engineering Education of the Technical University. The aim is to ensure the quality of the teachers of the Technical University and develop their teaching abilities as a part of the internal quality assurance system of the education at the Technical University.

The entry requirement for the course Quality Management of Teaching for the teachers of the Technical University is the completion of the basic course of university pedagogy, or a supplementary pedagogical study or eventually the participant should have a teaching degree from the College of Education Institute for Teacher Education. The coordination of the course for those interested in it is provided by the faculty vice-deans for education. According to the experience and comments from the participants of the pilot course there were proposed the following topics of the course providing 22 lessons of direct teaching:

- I. Introduction to quality, quality of schools and quality of teaching.
- II. Program planning of high-quality teaching (educational profile of the graduate, information sheet of the subject - identification data and a brief description of the subject curriculum, course planning and controlling of the results of teaching).
- III. Improving the quality of educational activities (lecture, exercise, seminar).
- IV. Improving the quality of students' performance evaluation.
- V. The quality management system of teaching: commitment and objectives, principles, areas and indicators, quality standards of teaching, tools for measuring the quality of teaching.
- VI. Final colloquium with graduate's thesis defense, curriculum development, the identified learning outcomes and the course evaluation.

As a result of the discussion with the course participants the following optimal structure of the final thesis for the participants of the course Quality Management has been proposed:

- Introduction (with emphasis on the quality of teaching)
- Quality of the study program of the specialization (emphasis on the educational profile of the graduate: knowledge, skills and competences of the students)
- Creation of the study program of the subject (information sheet of the subject - brief characteristics of the subject curriculum; determination of the commitment and the main objectives of the subject; benefits of the subject for the development of the competences of the student; determination of the cross-curricular contexts; determination of the subject teaching strategies - especially constructivist and metacognitive ones; determination of the teaching equipments - teaching aids, teaching techniques, teaching premises

equipment, material equipment of the student; content and timetable curriculum of the subject - the key elements of the subject, schedule of individual lessons; assessment of the specific objectives of each lesson; controlling of the teaching process - further an example of the final didactic self-test; self-evaluation of the planned teaching program of the subject;

- Evaluation of the teaching quality standard in the given subject by students via a questionnaire for a certain period, (for example a semester), some educational activities (lectures, exercises, seminars).

- Conclusion - recommendations for improving quality management of teaching by teacher.

A newer version of the course Quality Management in university teaching is currently still in progress as up to 50 participants have signed up for the course. The final results will be known in early 2016. However the on-going evaluation of the course lessons via questionnaires has shown that there prevails a similar opinion of the participants as in the previous course proving that this course should be completed by all teachers at the Technical University, and the accomplishment of the course will be very useful for the teaching practice and moreover the participants declared strong or very strong satisfaction with the course.

## **Discussion**

From the original number of 80 signed-up participants completed the course 66, i.e. 83%. Although we expected acceptable results and interest in the issue of quality management of teaching from the part of university teachers, however, we were pleasantly surprised by the relatively positive response and an unexpected interest in the progress of the course. Maybe it reflects the fact that the first participants in choosing the course by vice-deans of the faculties exhibited better relationship to teaching than to research. If the efforts of the rector's office of the Technical University is that gradually all university teachers should complete this course, then there could occur also opponents of this trend, which will be a challenge for us who prepare these courses, to take even a more resolute standpoint in order to balance the duties of the teachers namely in the field of both education and research.

The commitment of the quality management of teaching is mainly to satisfy the educational needs and expectations of students and professional needs of teachers in education. The recognition, co-creation, determination of indicators and criteria for the quality of the teaching process, adoption of quality management system of teaching by teachers, accomplishment of various components of the system in the teaching process have to lead the teachers

- to further professional development on the basis of systematic introspection, especially due to their own needs;
- to realize the necessity of quality management of teaching in maintaining discipline and interest of students in education;
- to provide high quality education for students in a well-designed study program.

The system supports the teacher's ability to manage himself systematically, helps aware the importance of further professional development which can motivate the students' effort for learning and lifelong learning.

It supports and declares the professionalism of the teacher, his professional responsibility, strengthens the teacher's morale, enthusiasm for the teaching, but also the confidence of the university teacher, as part of his honor and pride. This will also increase the public confidence in the teaching and the prestige of the teaching profession in the society.

The main objective of the quality management of teaching is to customize the teaching - learning process to the needs and expectations of the parties in interest; optimize the processes of teaching and learning, in which first of all the requirements of students will be met (educational needs and expectations associated with teaching) to increase the graduation percentage and then ensure them labour market success. At the same time there have to be achieved the goals set out in the creative and humanistic teaching at rational costs on teaching and the PDCA cycle has to be implemented with the application of internal mechanisms of quality. It is necessary to measure and assess all these processes objectively and take measures in education.

The systems of Quality Management at schools are effective only in that case when they develop the quality of teaching in study groups and especially the quality of students 'own learning.

The quality of teaching is based on the concept of the creative and humanistic teaching which is primarily focused on autonomy, activity and creativity of students. It is the application of didactic principles based on the personality of the student, applying the teaching strategies aimed at active learning, teaching focused on problem-solving and leading to self-creation of a fully developed personality of the student.

The teacher himself is the quality manager of the teaching process, whose primary role is to provide the commitment, objectives and development of his teaching due to the strategic objectives of the school, which can be reflected in preparing a quality program of teaching followed by the actual education activities.

To ensure the effective way of the development of the quality management it is requirable to be aware of requirements of praxis, potential



employers of the graduates of the particular study program. These are important both for the university and faculty, moreover for the teacher as well. At the same time it is necessary to know the expectations of the students for the study program, their levels of satisfaction and needs, and their degree of fulfillment.

## Conclusion

Quality management in university teaching is the most recent innovation of professionalism of a university teacher and his teacher's competences. Creating appropriate conditions for the work of teachers and developing their professionalism can improve the quality of teaching (especially lectures, exercises and seminars) as the most important processes at university and in the main area of the quality of the university. As a result the principle of indivisibility of teaching and research at universities can be ensured in a more effective way.

Quality management of teaching should be taught at Education Institutes for Teacher Education for all levels of schools. Without high quality teacher base there are neither school staff, nor managing officers at schools, even no academics, it can be a great contribution to the creation of comprehensive conditions for the education of the nation.

We realize that the complex issue of the quality management of teaching is far from being accomplished despite all our activities, it would be necessary at introduction of this management to have the results of teachers' educational activities. It is however certain, that nothing will change in the school system, if the teachers remain unchanged.

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