Practise what you preach: Quality of education in education on quality

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Abstract

Purpose – The quality of teaching should be the central theme in the education of Quality Management. Delivering bad courses about Quality Management would reduce the legitimacy of teaching, since we do not practise what we preach. The purpose of this paper is to discuss how the quality of education can be enhanced through effective course design based on quality thinking and higher education theory.

Design/methodology/approach – The study covers three university courses in the field of Quality Management; an introductory course in Quality Management, and courses in Six Sigma and Lean Production, respectively. Each course has been analysed and described in respect of factors affecting student learning and the perceived quality of the courses. The impact of course design on examination results and student evaluation has been studied and compared to historical data.

Findings – The study demonstrates that course design has a profound impact on student learning as well as course evaluation. Analysis of the three examples provided in this paper indicates that the Quality Management principles can effectively be used in course design processes.

Practical implications – Attention to the principles presented in this paper facilitate the design of courses that enhance learning and ensure higher student satisfaction.

Originality/value – The application of Quality Management principles in higher education has a long theoretical tradition. This paper provides three strong examples of how this can be done in practise.

Keywords – Quality, education, course design

Paper type – Research paper

Introduction

In today’s global world the economic growth depends on the capacity to produce knowledge and higher education institutions are key players in the development of knowledge-based economy and society. Students need to learn more in less time and quality has become an increasingly important aspect of higher education.

As the world grows smaller, the students have a larger number of universities available to them. Universities therefore need to expand from a regional or national perspective as the competition is taken to the global arena. This competition is evident through various international ranking lists, such as the ARWU/Shanghai list, Times Higher Education-QS and Webometrics.

As in every global market, the demands on quality increase – for all parties involved in the educational process. As indicated above, universities compete on a global market, which puts pressure on delivering programs and courses that attract students. The students are also subject to this pressure, with an ever-increasing competition on the labour market. In turn, this increases the demand on effective learning during their studies.
Kreber (2010) states that the policy initiatives on higher education emphasise that universities should prepare students for employability, lifelong learning and facing new and unprecedented global challenges. The society for teaching and learning in higher education calls for new thinking about higher education and express a need for development of new pedagogy for “supercomplexity” (Barnett and Hallam, 1999). We claim however that a lot of can be learned from the quality management area. The authors of the paper have recently taken a course on higher education pedagogy and discovered many parallels between quality thinking and recent developments in higher education teaching methodology. Aspects such as seeing students as primary customers were obvious for us, which was not always the case for participants from “non-quality” university divisions. We recognised that we do not need to learn a lot of new theories, but just need to practice what we teach our students. Although we already applied many quality principles in the course design and teaching-learning activities (TLAs), we still have much potential for improvement. The feedback received from students in the course evaluations pinpointed a problem of teaching about quality, but not having high quality in the course. One example from a course evaluation is given below.

The course has been ok, but I have taken better courses, although these have not been given by departments working with quality. I think a benchmarking with other teaching departments would provide valuable inspiration for improvements.

In the last two years we have worked on redesigning our courses with focus on the needs of the students and teachers as facilitators of learning. We have shifted our focus from the teacher as the primary provider of education to students as active and engaged participants in their own learning. The purpose of this paper is to discuss how the quality of education can be enhanced through effective course design based on quality thinking and higher education theory.

**Quality in higher education**

Previous research on Quality Management (QM) in higher education has mostly focused on system level changes (Koch and Fisher, 1998; Kanji et al., 1999; Mergen et al., 2000; Venkatraman, 2007). The conclusion from these studies is that QM is difficult to apply in a university setting. For instance, Koch (2003) argues that QM is too time consuming and does not work in higher education. He concludes that QM “had its moments, but failed to deliver” (p. 332).

There are many different perceptions of how to define quality in higher education. All too often, quality is reduced to a number of measurable characteristics pertaining to the structural aspects of the education system, such as teacher-student ratios, number of hours spent on specific tasks or the amount of money spent. Factors like these may of course be correlated to quality, but increasing the quantity of measurable characteristics does not automatically lead to higher quality.

This argument is, of course, contingent upon how we choose to define quality in a higher educational context. Most definitions of quality are based on the needs and expectations of the customer (e.g. Deming, 1986; Juran, 1999; Bergman and Klefsjö, 2010). In other words, the perception of quality will vary with different customer groups. While universities have many customers, the students should be considered the primary customers of education. In other words, our efforts should be focused on generating value for the students and facilitate their learning. Although this may seem trivial to scholars of Quality Management (QM), it does not have the same tradition within higher education as a whole. Several authors argue that much
teaching is centred around what the teacher does and a logic of learning that is based on passive reception of knowledge from the professor (Biggs, 1999; Kolb and Kolb, 2005; Whetten, 2007). Based on this observation, Astin (1984) argues that teachers should focus more on what the student does as opposed to their own efforts. Whetten (2007) agrees with this notion and argues that “we are in the midst of an unfolding paradigm shift in higher education, from focusing on teaching to focusing on learning” (Whetten, 2007, p. 340).

According to Astin (1984), student involvement is a key factor for learning. Young et al (2009) share this point of view, and raise questions about the efficiency of lectures and challenge their position as the standard teaching method. The main argument is that the students are largely passive in this form of teaching. They argue that this passivity can negatively impact student concentration and consequently does not support deep learning. Following Kolb and Kolb (2005), learning should be seen as "a holistic process of adaptation to the world”, which emphasises the student’s construction of knowledge.

There is a large degree of consensus between scholars of educational theory that one of the key aspects of effective education is the notion of active learning (Biggs, 1999; Ramsden, 1999; Toohey, 1999; Kolb and Kolb, 2005; Whetten, 2007; Kember et al., 2008; Zepke and Leach; 2010).

Astin (1984) also claims that student involvement is more positively correlated to student satisfaction than any other factor. Similarly, Lengnick-Hall and Sanders (1997) have found that a learning-focused form of co-production is strongly correlated to the students' satisfaction with the course process as well as their own learning. Student involvement should therefore be the primary objective when designing and delivering a course.

From a QM perspective, a customer-focused approach to education would emphasise learning as a process of knowledge development in which teaching is merely one part. This idea strikes a chord with Kolb and Kolb (2005), who argue that learning should be seen as a process rather than outcomes and that teaching should be aimed at facilitating this process. One approach to achieve this is to ensure that the various aspects of the learning processes work together towards a mutual goal, a principle known as constructive alignment (Biggs, 1996). This notion resonates with the principle of systems thinking within the QM tradition (cf. Deming, 1993). For instance, if a large proportion of the students fail the examination, one should not be blame the students for lack of motivation or ability, but rather seek the root cause in the course design and how the various elements of the course contribute to the outcome.

According to Biggs (1989), there are four important components that contribute to deep learning: (1) a clear structure; (2) student activity; (3) interaction with teachers and students and (4) a motivational context.

In order to reach these goals, Whetten (2007) suggests that course design should begin with high level learning objectives and then create learning activities and examination that support those objectives. Achieving this requires that the needs and expectations of the students are used as input to the design and delivery of a course. This is very similar to what the idea of “backwards design” (Whetten, 2007, p.349). From a QM perspective, we recognize this as basic process management.

As explained by Biggs (1996), the intended learning outcomes convey to the students what we want them to be able to understand and achieve after the course. On the one hand, distinct
course objectives provide a clear direction for the students. However, the course objectives do not necessarily direct the students’ learning to the extent that we would like to think. According to Astin (1984), a large proportion of the structure pertaining to course design and administration will influence the degree of student involvement, and indirectly learning.

According to Ramsden (1999), the examination is likely to have equal if not greater impact on how the students learn. The purpose of examination is often seen as enabling the teacher to reliably evaluate the students’ efforts, but it does not really encourage the students to engage in learning activities. An inappropriate examination may in fact be detrimental to the student’s learning (Ramsden, 1999). Instead, the examination should stimulate active learning and reflection among the students.

One way to achieve this is by using formative examination, which provides the students with the opportunity to revisit the course content and allows them to improve their performance throughout the course. In order to facilitate this kind of progress, it is important to provide opportunities for learning to take place in interaction with teachers as well as other students (Whetten, 2007; Onwuegbuzie et al., 2009; Zepke and Leach, 2010). Although interaction between teachers and students is important, Zepke and Leach, 2010 have found that it is important to facilitate the students’ autonomy, making this a balancing act. Whetten (2007) argues that one part of the puzzle is to assign time for the students to reflect on their own efforts.

This idea of implementing continuous improvement through formative examination is of course impossible without clear communication and feedback (Toohey, 1999; Kolb and Kolb, 2005; Whetten, 2007). Examination should be clearly communicated and criteria should be communicated before the assignment begins (Rae and Cochrane, 2008). For instance, using a grading rubric and giving the students the criteria in advance may facilitate their learning and steer them in the right direction. Rae and Cochrane (2008) further argue that a “feed forward” strategy can contribute to activate passive students to a higher extent. Feedback needs to be given quickly in order to ensure that the students have not “moved on” to new subjects/tasks. It also needs to emphasise the positive aspects of the students’ performance in order to strengthen their confidence (Zepke and Leach, 2010).

According to Light (2001), the combination of structure and feedback is very powerful.

A large majority of students say they learn significantly more in courses that are highly structured, with relatively many quizzes and short assignments. Crucial to this preference is getting quick feedback from professors–ideally with an opportunity to revise and make changes before receiving a final grade. (Light, 2001, cited in Whetten, 2007, p. 348)

Another way to maximize student motivation and involvement is to create realistic scenarios that relate to the course content and connect these to teaching and learning activities (Kember et al., 2008). According to Kember et al, abstract theory can in fact demotivate students and be counterproductive to learning. Conversely, practical application of the theory will increase the sense of relevance and may thereby facilitate learning. By offering forms of examination that encourage the students to engage in active analysis and problem solving, the students learn more about the subject matter as well as about their own learning (Lengnick-Hall and Sanders, 1997). Through their study, Kolb and Kolb (2005) demonstrate that learning that depends on concrete experience is especially important for advanced students.
Case background
The quality education at Linköping University has a long tradition. The division of Quality Technology and Management was established 1976 and since then courses on Quality Management have been offered on basic and advanced levels. The target group are engineering students from primarily two programs: Industrial Engineering and Management and Mechanical Engineering. In the 1990s the quality education in Linköping experienced a tremendous interest with hundreds of students participating in the introductory courses and around 40 students choosing the quality specialisation. A decade later, the interest for quality courses decreased and the number of students dropped to levels that caused economic concerns for the division. One of the decisions at this time was to give the courses in English and target international students.

In June 2010 the Swedish government decided to introduce tuition fees for students from outside EU/EEA. The expectation was that the number of non-European students would decrease dramatically and many master programs would be closed. This created an incentive for the division to renew the course package and improve the quality of the courses to attract more Swedish and European students.

Today the course package includes an introductory course in Quality Management and four advanced courses: Lean production, Statistical Quality Control, Six Sigma Quality and Customer Focused Product and Service Development. All courses are 6 ECTS. In addition, the students are able to take a project course where they apply their knowledge on improvement projects carried out in cooperation with a company. Students who wish to complete their studies with quality specialisation are required to gain at least 18 ECTS points from quality courses and write a master thesis in the area.

In 2004, the university introduced a course evaluation system (KURT) with the ambition to improve the quality of teaching. This system is used for all undergraduate courses. Using an electronic form, the students are requested to evaluate of the courses they take by rating a number of characteristics on a five-point Likert scale. Examples of questions are: “The course has corresponded to my expectations regarding content and organization”; “The efforts of the teachers in the course are commendable” and “On a scale 1-5 (5 being the best) I give the overall credit to this course”. Students are also requested to provide qualitative comments on the evaluated parameters. The output from the course evaluation system is followed up by the faculty, which provides yet another incentive for improvement.

Case 1: The introductory course
Our introductory course should probably be seen as the most important of our courses, since it is the first course that the students encounter, and also a prerequisite for taking the advanced courses. It is thereby a possibility for marketing our advanced courses and the Quality Management specialisation.

The course covers the fundamentals of Quality Management (QM) and focuses especially on the principles that underpin the QM philosophy, i.e. customer focus, process orientation, continuous improvements, fact-based management, employee participation and engaged leadership (See e.g. Bergman and Klefsjö, 2010). The overall aim of the course is to prepare the students for situations in which the tools and methods of QM are relevant in their future careers.
However, the course had been largely unchanged since the beginning of the 1990s, despite many useful improvement ideas from both students and teachers who had been involved in the course. Previous course evaluations have provided a number of important points that have been used for improving the course. One of the most critical points was a perceived lack of coordination between teachers, which was highlighted through overlap between lectures. Further, a large proportion of the students pointed to flaws in the course compendium, but they praised the course book.

During the autumn of 2010, we decided to amend this and to make fundamental changes in the course structure. Based on the points listed above, we developed three principles that would guide us through the process of redesigning the course.

First of all, we wanted to create a clear structure for the entire course and a logical progression between themes. This would prevent overlap between lectures and increase the possibility for students to understand the course structure. Secondly, we wanted to emphasise the practical relevance of the course content and thereby help the students to understand the purpose of the course. Finally, we wanted to ensure that the students remain active throughout the course and engage in learning activities, as opposed to studying intensively the week before the exam.

Course structure

The entire course has been structured around a fictitious company – Quality Coffee (www.qualitycoffee.se). The course content was related to challenges perceived by the company. A series of short film clips were created, in which an actor played the company’s CEO. Through the film clips and email messages from the CEO, the students were given various assignments of making analyses and producing suggestions for how to solve the problems faced by the company.

The course is based on a modularized structure, in which the modules comprised four components.

1. A description of a problem at Quality Coffee, presented by the CEO.
2. A lecture on theory required to solve the problem
3. A chapter in the compendium and reading suggestions in the course book
4. A mandatory assignment to provide a solution to the problem formulated the CEO.
5. Scheduled times for asking questions

All assignments were done in groups in order to facilitate discussion among the students. Since the course duration is only eight weeks, the workload is quite intensive, and the students have one week to complete an assignment. It was therefore essential for the teachers to be available for questions and to provide quick feedback on the assignments.

This structure was repeated for each of the six main themes of the course. With clear learning objectives for each module, the risks of overlap and repetition between lectures were significantly reduced. Also, the modularized structure provided a clear indication for the students what to expect.

The assignments serve a dual purpose. First, they aim to provide a connection to ‘reality’ and to illustrate the practical relevance of the principles taught in the course. Secondly, they force the students to engage in the course content and learn continuously throughout the course. Although the assignments are mandatory, the final grade is based on a written examination
that covers all the course content. The main purpose of the assignments is to prepare the students for the exam, which is structured based on the topics brought up in the assignments.

Outcomes

Our expectations were that the new course design would lead to a higher degree of student engagement and thereby a better learning experience for the students. We also expected that the ‘realism’ of the course would make it more fun for both students and teachers, and that this would be reflected in the final evaluation of the course.

The feedback we have received from the students has confirmed our expectations. A substantial amount of students have commented that the cases have made the course material more vivid and created a better learning experience. This is also evident in the quantitative assessment of the course. Historically, the course has received an average score of 3.5, with very low variation ($s \approx 0.07$). After implementing the changes described above, the course received a score of 3.84, which is the highest on record, and significantly higher than previous years.

Case 2: Advanced course in Lean Production

The Lean Production course was created in 2011, based on an immense interest from the students. The aim of the course is to provide the students with the ability to describe and explain basic concepts and principles of Lean Production and apply several Lean tools and techniques to eliminate waste in the system. During the course students learn about the philosophy, principles, methods and tools of Lean production. The students are also given knowledge of how to implement Lean in different organizations and realize the factors that are important for success.

The course literature is the book “The Toyota way fieldbook: a practical guide for implementing Toyota's 4Ps” (2005) written by Liker, J. K. and D. Meier and articles distributed during class. The course language is English, where both Swedish and international students are participating.

Course structure

The course is structured to reflect a possible Lean journey for a manufacturing company. Students take the role of newly employed Lean coordinators, which are requested to lead organisational change toward a Lean company. The learning and teaching activities relate to the typical activities, which companies undertake when implementing Lean: educating staff, playing Lean game, analysing current state using VSM, using different Lean tools to solve identified problems, changing culture and facing the challenges of organisational change.

Our focus in the course design was to support students’ active learning by creating a practical relevance and the application of theory into practise. Beside the case studies we used also a number of methods to support learning. As in the introductory course, students were given cases to work with and tight deadlines. The principles of quick feedback, teacher availability and scheduled group work were also implemented in this course. Students could also post questions on the course online discussion forum. In addition, practical exercises were used to enable learning by doing.

There was no written exam in the course, but students were examined by 2 cases solved individually and 3 cases solved in groups. All of the cases are based on real life scenarios.
where students need to use the newly gained knowledge to solve some practical issues. As example in case 2 students used value stream mapping to analyse the current situation of the case company. Students learned how to visualise and understand the flow of material and information and how to identify waste and opportunities for improvement.

The final grade was based on the total number of points received in the assignments. The first four cases were worth a maximum of 2 points. The fifth case was more difficult and therefore more rewarding. Students could gain maximum of 4 points in this case. To ensure the quality and reliability of the course examination, careful consideration was given to the following factors. First, the examination must enable assessment of individual student's performance throughout the course to avoid “free riders”. Therefore we introduced two individual cases; half of points available for the cases can be achieved through individual work. Secondly, the examination must reflect the level of ambition of students. An ambitious student that participates in a low-performing group should still be able to get the best grade. The last individual case was therefore made bigger, which enables the students to compensate for any points lost in the group work. Finally, a standardised grading rubric was created and made available to the students in the beginning of the course. This was used for all the cases, and the students received the completed form as a part of the feedback for each assignment.

Outcomes

In respect that the course was given for first time, it received a high evaluation grade from students. The students’ grade was 4,33 (5 was maximum) and the response rate was 35%. We also used other formative forms of course evaluation as writing post-its in the beginning and in the middle of the course. Students were also encouraged to provide a constant feedback on the course discussion forum, however there was not much response, which was received by this way. In comparison to other advanced quality courses given at the division, a relatively high percentage of students received the best A grade (38,8%), 20,4% received the B grade, 39,5% the C grade and 1,4% failed the course. In the qualitative feedback received from the students it was emphasised that the course provided high motivation for learning and it was fun to work with the examination cases.

Case 3: Advanced course in Six Sigma Quality

The Six Sigma Quality course had been given by the department for some years but was totally revised in 2012 when a new teacher joined the department. The new approach was very much based on the new teacher’s experiences of Six Sigma training, gained in industrial applications working as a Six Sigma Master Black Belt.

The intent of the course was to meet the industry's requirements for engineers with knowledge in the improvement methodology of Six Sigma. After completing the course the student should be able to use most Six Sigma tools and be prepared to lead and conduct small and medium size Six Sigma improvement projects. Emphasis was put on project execution and basic statistical tools while some advanced statistical tools were covered only briefly. Thus, the examination of the course mainly covers the usage of the tools and working in a student project team. The student should also have an understanding of the prerequisites and managerial aspects of Six Sigma.

After completing this course they can choose the QM profile and conduct a real Six Sigma project – at some external company – in a so-called project course and thereby get a Six
Sigma Green Belt certificate, issued by the department of Quality Technology and Management. In the project course the execution of a real project is the examination.

Course structure

In an internal evaluation the previous course design was classified as being strong in statistical methods but weaker in project execution methodology. The new approach was to give the students a (close to) real project but with fictitious data; very much like the Quality Coffee approach in the introductory course. In this case, the fictitious train company called Easy Train experienced problems with late trains, dissatisfied customers and, as a result, reduced turnover and profits. This, of course, made the CEO very unhappy. Fictitious data was used for three reasons. First, measuring real process data is too time consuming for a short course. Secondly, advanced tools taught in the Six Sigma Quality course are often difficult to use in projects with limited amount of data. Finally, the use of fictitious data also meant that the teacher could hide root causes in the data.

The whole course was administrated, planned, conducted, checked and examined by one person, i.e. the new teacher. The course literature was a book following the DMAIC process and utilizing the software Minitab was used (Brook, 2011).

As in the other courses described above, students worked in teams of four and conducted a complete project through the five phases of the Six Sigma process: Define, Measure, Analyse, Improve, and Control. In each phase, each team filled in a template of a so-called Final Report, consisting of phases, tools, links to other templates, and grade requirements.

In the beginning of the Define phase all teams got the same problem statement from the CEO. In the beginning of the Measure phase each team received 3600 samples of unique data, generated to have a common cause variation and a unique special cause variation hidden in the data.

Each phase was started with a two-hour lecture where the theory and tools of the phase were presented. The teams then had to conduct the tasks of that phase during the following week. As in the other courses, time was allocated in the schedule for unsupervised team meetings (2h/phase), and the students had one week to complete each assignment (for the current phase). After the teacher provided feedback on the report, the students were allowed to improve and re-submit their reports – several times if necessary. They could choose to go for lower or higher grades based on how advanced tasks and tools were used. The teacher was also available for questions during office hours, provided the students had tried to solve a problem in the team first. They were always given help on methods and tools but never on “the correct answers” or doing the job.

Each lecture ended with five minutes feedback, “plus and delta”, meaning “What was good to keep?” and “What could be improved and how?” Ideally, suggested improvements from the students should be implemented immediately, before next lecture. Most of the time, they were.

After the five phases all projects were presented by the teams in a two-hour poster session and two of the best teams were selected to present their projects orally to “the Easy Train management board”. 
Each project report was approximately 50-100 pages and was the basis for examination and grading. The grade requirements of each phase were given in the report template and even though it required a lot of time to fulfil the highest requirements, all teams did.

Outcomes

Once again, like in the introductory course, our expectations were that the new course design would lead to a higher degree of student engagement and thereby a better learning experience for the students. Once again we made a ‘real’ problem to solve, leading to better learning and more commitment from both teacher and students.

As mentioned above, all teams fulfilled the predefined requirements for the highest grade. However, it is not sure each individual team member fulfilled the requirements, but all students still received a top grade in the course.

Based on the course evaluations, the students seemed to appreciate the course. They praised the overall structure and management of the course, along with the project based examination. The overall grading of the course by the students was 4.52, with a response rate of 54%.

In addition to this feedback, most students said that they had learned a lot and that they would have very good use of this knowledge in the future.

Discussion

The case descriptions above provide three examples of how educational quality can be increased through effective course design based on quality principles and higher education theory. In this study, a number of QM principles have been applied to our course work. These involve customer focus, fact-based management, process orientation and continuous improvement.

The main principle for the redesign was to focus on the needs and expectations of the students and to provide TLAs that enhance student learning. We believe that the key to improve educational quality is to base the course design on the needs and expectations of the customers – the students. By viewing and treating the students as customers, we can fulfil and preferably exceed their expectations. For this reason we involved students in the improvements of the course using many feedback sessions in addition to the information available in the course evaluation system. We shifted focus from viewing the teacher as transmitter of knowledge to the student as an active participant in TLAs. Our aim was that students should actively learn throughout the whole course instead of just cramming before the exam.

As mentioned above, examination is one of the most powerful factors that influence the way that students study and thereby what they learn. The use of formative examination and assignments that incorporated the principle learning-by-doing, the students experienced the examination as fun, interesting, and challenging. Although the students worked hard, solving the examination tasks provided satisfaction and levelled the workload, which in turn minimized the stress experienced by final written exams. All of this stimulates active learning and promotes learner engagement in the course (Kolb and Kolb, 2005; Young et al, 2009).

With quick feedback and more time for reflection on the course topics, the students were able to correct their mistakes and increase their understanding of the course topics, thereby applying the principle of continuous improvement throughout the course. Further, the use of
standardised assessment criteria helped students to focus on the right things and understand their strengths and weaknesses, thereby providing a fact-base for their improvement/learning. The assessment criteria were also a great support for teachers by simplifying the assessment process and enabling consistent and objective grading.

A crucial point was also to make a connection between the different course topics, so students can see how they are interrelated and complement each other. This was achieved by applying the principle of “Constructive Alignment”; teaching-learning activities were designed to support the achievement of learning objectives, thereby enforcing the principles of systems thinking and process orientation.

We have found that designing a course around a practical scenario or industrial context is a good way to provide a structure to a course. A consequence of this is that the course, almost automatically, receives a better and more clearly understandable structure. In all three courses students worked with practical exercises and cases and could apply their newly gained knowledge in solving industry-based problems. As suggested by Kember et al (2008) and Whetten (2007), by taking the students’ perspective we realize the importance of preparing them for practical application of the methods that we teach. We believe that the relevance of the course content becomes clearer to the students, and as we have seen from the course evaluations, this kind of “simulated reality” is highly appreciated.

Finally, the principle of teamwork was incorporated through the fact that many assignments were performed in groups. This provided a basis for exchange of knowledge and opportunity for discussion and reflection. Further, by focusing on teacher availability and providing arenas for the students to discuss and reflect, we fostered a close student-teacher relationship, which regarded as one of the factors motivating student learning (Kember et al., 2008). This is also a key factor to facilitate deep learning (cf. Biggs, 1989).

Conclusion

In this paper, we have taken a different approach compared to previous studies on Quality Management (QM) in higher education. As opposed to an all-encompassing ambition to change the entire university system, we have restricted the reach of QM to the teaching level and more specifically to course design. We believe that this represents a more sound interpretation and application of QM principles, and that this eventually can contribute to significant improvement of higher education.

The study demonstrates that the application of QM principles in course design can have a profound impact on the results. A well designed course implies a better structure, which will reduce the amount of wasted resources and enhance the communication between teachers as well as with the students. Above all, this provides better conditions for student learning, which is also reflected in examination results and student satisfaction.

Biggs (1996) argued that “faculties of education should not be advocating things for teachers or schools that they are not capable of practising themselves.” (Biggs, 1996, p. 360). In a similar vein, it would be strangely hypocritical to teach principles of Quality Management without applying these ourselves.

By taking our own recommendations to heart, we have improved the conditions for student learning, which we in turn believe will improve the satisfaction of all the university’s customers; students, future employers and society. All of this will strengthen our position as
an attractive provider of education, which in continuation will improve the competitive position of the university.

Biggs argues that you should always “practise what you preach”. As practitioners and preachers of Quality – we agree.

References


Brook, Q. (2011), Lean Six Sigma and Minitab. 3rd ed. OPEX Resources.


