



TQM-based self-assessment in the education sector

TQM-based self-assessment

Experiences from a Swedish upper secondary school project

299

Magnus Svensson and Bengt Klefsjö
Luleå University of Technology, Luleå, Sweden

Abstract

Purpose – The purpose of this paper is to describe a self-assessment project, the steps taken and the tools used, and above all, focus on the evaluation made after the decision to discontinue, learning and acquiring knowledge about self-assessment as a methodology in educational organizations.

Design/methodology/approach – In order to investigate the experiences of the project, interviews were conducted with the Upper Secondary Education Officer and with ten School Principals and a questionnaire was administered to gather opinions among the other staff members. The analysis mainly consisted of searching for potential patterns among the respondents' answers studying their own words by use of three different criteria.

Findings – It is important how an organization enters a self-assessment project, or even any quality project. Many people do not seem to have thought very much about what is considered to be quality in the environment in which they operate, and even less have a shared view within the organization. Too often organizations tend to start working with self-assessment without sufficiently thinking of "why" and "how" to accomplish the project. The work is performed without preparing all those who are to participate in the project and without discussing the core values that constitute the work. If the organization has not reached the necessary maturity level it is probably a waste of resources to start a comprehensive self-assessment project.

Originality/value – As a synthesis from the analysis, a model for how an organization should start self-assessment is presented, as well as a number of guiding points. Also, the new tool "Lärostegen" is described.

Keywords Self assessment, Total quality management, Education sector, Educational administration, Leadership, Sweden

Paper type Research paper

Introduction

Total quality management (TQM) is a management concept, originally developed during the 1980s to support private goods-producing companies. The origin of TQM is heavily based on the ideas by Edwards Deming and Joseph Juran and their work in the Japanese industry after the Second World War (Deming, 1986, 1994a; Juran, 1951, 1989). Some perspectives of the quality evolution and the TQM concept can be found in Bergman and Klefsjö (2003), Park Dahlgaard (2002) and Dale (1999).

The TQM concept has subsequently been transferred to the private service sector and, nowadays, also to the public sector. There are even examples of local municipalities, which have used values, methodologies and tools from TQM to improve the societal services; see Osborne and Gaebler (1992) and Fredriksson (2004).

In several countries, organizations in the education sector and the health care sector are working with methodologies and tools from TQM. Illustrations of that can be found



Quality Assurance in Education
Vol. 14 No. 4, 2006
pp. 299-323

© Emerald Group Publishing Limited
0968-4883
DOI 10.1108/09684880610703929

in, e.g. Rombach (1990), Lagrosen (1997) and Zbaracki (1998). The use of TQM in the public sector is sometimes considered as part of the new public management (Hood, 1995), which is a generic term for a large number of change initiatives, or, as Christensen and Laegreid (2001, p. 19) states: "... the concept is loose and multifaceted and offers a kind of 'shopping basket' of different elements for reform of public administration".

As TQM has been applied to different organizational environments, its appropriateness and suitability are sometimes questioned. The criticism also relates to applications of TQM in educational organizations. For instance, Kohn (1993) states that TQM might be useful within industrial organizations, but not in the classroom. He describes this as educators trying to transplant a model, methods and the metaphors included, stemming from the business world into classrooms. Another argument in the criticism is that introducing TQM in the educational sphere implies an economization of that sector and at the same time introduction of a new system of values that challenge traditional pedagogical values (Kenway *et al.*, 1995). Furthermore, Scherp (2004) interprets TQM as just a measure of quality in terms of satisfied customers.

An example of, and perhaps even an explanation of, the increased interest in quality improvement work and TQM in the public sector is the increasing requirements by different governmental authorities in several countries, including Australia, Great Britain, Singapore and Sweden (Anderson, 2002; Ahmad and Zain, 2002; Svensson, 2004).

In Sweden, for example, since 1987 a new administrative law has been in force in the public sector, which calls for the removal of barriers and better access to authorities. Furthermore, in 1999 the National Council for Quality and Development was established by the Swedish Government to support quality improvements within Swedish governmental agencies. As the educational sector is mostly in the public domain in Sweden, the Swedish National Agency for School Improvement was established in March 2003 to support schools in their quality work (Myndigheten för skolutveckling, 2004).

Today, there is an interest in quality improvement work among Swedish educational organizations, partly due to requirements laid down by authorities. For instance, the Commission on Advanced Vocational Education in Sweden requires that educational organizations use quality assurance and some form of quality evaluation (Kommittén för kvalificerad yrkesutbildning, 1997). Another example is Government Ordinance SFS, 1997:702 regarding quality accounting within the public education system in Sweden, which requires the compilation of annual accounts.

How quality work is accomplished differs, but there are several examples of educational organizations in Sweden and around the world performing quality work based on TQM. Prior to beginning TQM work, an organization is often recommended to start with self-assessment to get a picture of its strengths and improvement possibilities. According to Dahlgaard *et al.* (1998, p. 328) it is "generally accepted that a TQM process starts with a self-evaluation[1]...", and Zink (1997, p. 48) says that "self-assessment is a powerful management tool[2]" and states that it provides a direction for continuous improvement initiatives in key performance areas.

Some recent references here are Lagrosen (1999), Grant *et al.* (2004) and Saraiva *et al.* (2003) discussing self-assessment using award criteria and Srikanthan and Dalrymple (2004) discussing the use of TQM at university level and presenting a model for the practice.

The purpose of this paper

In this paper a TQM based self-assessment project within four upper secondary schools in the municipality of Luleå in Sweden is described and evaluated. The aim of the project was to support the work on quality in a structured way within the upper secondary education in Luleå, and was launched by the upper secondary education officer during the autumn 2003.

After about a year, the activities on self-assessment at the four schools decreased and the interest among the staff fell. A discussion within the managerial group resulted in a consensus decision to stop the project, at least temporarily. At the same time, the group decided that it was important to evaluate the project and try to identify the reasons why it had to be cut short in order to learn, and to spread the experiences to other people planning to work with self-assessment.

The purpose of this paper is to describe the project, the steps taken and the tools used, and above all, focus on the evaluation made after the decision to discontinue, in order to learn and acquire knowledge about self-assessment as a methodology in educational organizations.

Total quality management*Definition of total quality management*

Before a further discussion on the usage of TQM-based self-assessment, we would like to briefly present the concept of total quality management and the methodology of self-assessment.

There is still no single definition of TQM. According to Hellsten and Klefsjö (2000) several of the attempts to define TQM appear to be fairly vague descriptions. As an illustration of this, Deming said “the trouble with Total Quality Management, the failure of TQM, you can call it, is that there is no such thing. It is a buzzword. I have never used the term, as it carries no meaning” (Deming, 1994b, p. 22).

According to Dahlggaard *et al.* (1998, p. 19), the reality of TQM is “a corporate culture characterized by increased customer satisfaction through continuous improvements, in which all employees in the firm actively participate” and according to Oakland (1989), TQM can be seen as “an approach for improving the competitiveness, efficiency, and flexibility of a whole organization”. Dale (1999, p. 9) states that “. . . TQM is the mutual co-operation of everyone in an organization and associated business processes to produce products and services which meet and, hopefully, exceed the needs and expectations of customers. TQM is both a philosophy and a set of guiding principles for managing an organization”.

Even though several descriptions of TQM exist, people seem broadly to agree today that TQM is based on a number of core values, which should constitute a culture in the organization. Although the number of these values, and the exact formulation, differ slightly between authors, a number of studies have shown that there is a common basis of core values (Sila and Ebrahimpour, 2002; Hellsten, 1997a). These core values have a great resemblance to the following six core values discussed by Bergman and Klefsjö (2003):

- (1) focus on customers;
- (2) focus on processes;
- (3) improve continuously;

- (4) base decisions on facts;
- (5) let everybody be committed; and
- (6) commitment of leadership.

However, TQM is more than core values and some authors have recently described TQM using a systems view (Shiba *et al.*, 1993; Dean and Bowen, 1994). According to Hellsten and Klefsjö (2000), TQM is a management system consisting of core values, methodologies and tools, as shown by the model in Figure 1. This model is called “the TQM-triad” by Svensson (2004).

These three TQM components, according to Hellsten and Klefsjö (2000), are interdependent and support each other as illustrated in Figure 1. The core values are the basis for the culture of the organization. Therefore, the idea is that we have to start by identifying the core values, which should constitute the organization’s culture, and then, the managers at different levels, all the time, will have to choose methodologies (ways to work consisting of a sequence of activities) which support these values, and, also consistently choose the tools as, for instance, “Affinity diagram” and “Criteria of MBNQA (Malcolm Baldrige National Quality Award) supporting the methodologies. According to Hellsten and Klefsjö (2000), “process management”, for instance, is one methodology supporting the value “focus on processes”, and “process maps” and “control charts” are examples of tools to be used within “process management”. This triad perspective of TQM, with its systemic view, makes it easier to explain and structure the practical usage of TQM, and in this case, also to provide the basis for self-assessment.

Self-assessment – a methodology within TQM

Self-assessment should be interpreted as “a comprehensive, systematic review of an organization’s activities and results referenced against a TQM-based model” (EFQM, 1997). We want to emphasize that both “how we work”, i.e. the activities, and “what we

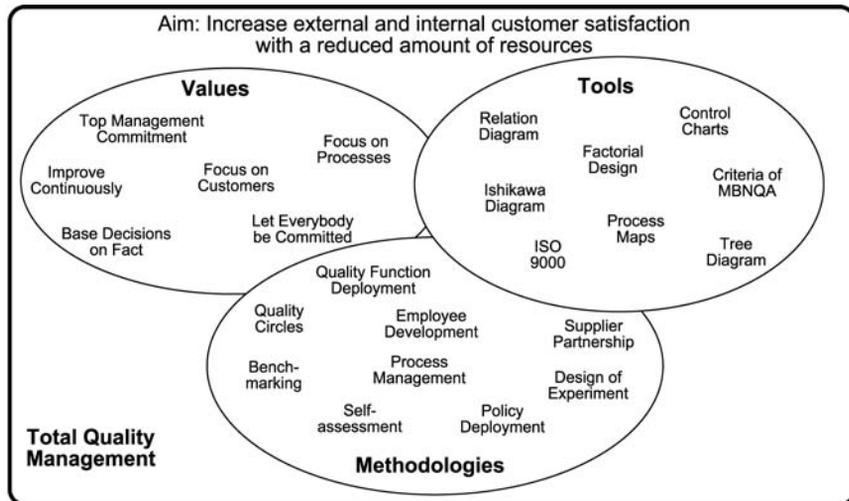


Figure 1.
TQM as a management system

Source: Hellsten and Klefsjö (2000)

achieve”, i.e. the results, should be assessed. Self-assessment could be described as consisting of four phases (Svensson and Klefsjö, 2000; Klefsjö, 2003):

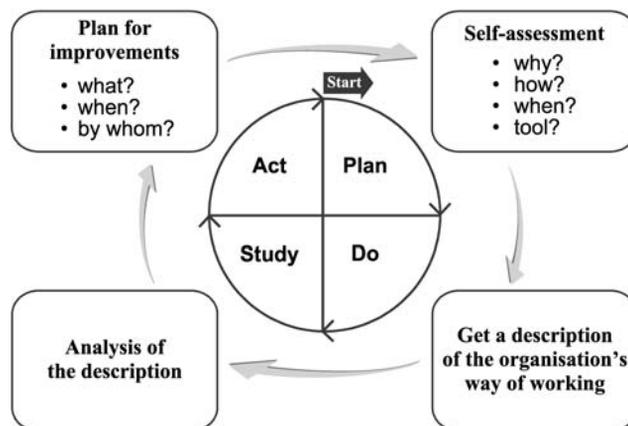
- (1) *Plan phase*. Here the organization discusses and decides why self-assessment should be performed, how and when the work should be done, who should be involved in the work and what tool should be used as a basis for describing the current ways of working in the organization.
- (2) *Describe phase*. Here the description of the organization’s way of working is obtained based on the chosen tool and the questions contained in that tool.
- (3) *Analyze phase*. Here the description is scrutinized and strengths and improvement possibilities are identified.
- (4) *Act phase*. Based on the strengths and improvement possibilities, an action plan is created for the improvement work.

These four phases are closely related to the “Plan-do-study-act” (PDSA) cycle, also called the improvement cycle (Deming, 1994a). This is illustrated in Figure 2.

Based on the interpretation in Figure 2, self-assessment work does not consist of improvement work. Such work has to be done afterwards through different improvement projects, as illustrated in Figure 3.

There are several ways in which the four different phases of self-assessment, illustrated in Figure 2, might be carried out. This holds true, in particular, for phase two, “the Do phase”, and the third phase, “the Analysis phase”. These ways range from simple questionnaires through management workshops, to the simulation of a full quality award application[3]. Different approaches on similar lines are discussed by, for instance, EFQM (1997), Porter and Tanner (1996) and Svensson (2002).

Various factors influence the way in which an organization tackles the self-assessment procedure. Among these are, for example, the size and resources of the organization, its current culture, the reasons for conducting self-assessment and the values that should be supported with this methodology. These issues have been discussed by, for instance, van der Wiele *et al.* (1996) and Svensson (2002).



Source: Svensson and Klefsjö (2000)

Figure 2. Self-assessment phases put in the improvement cycle

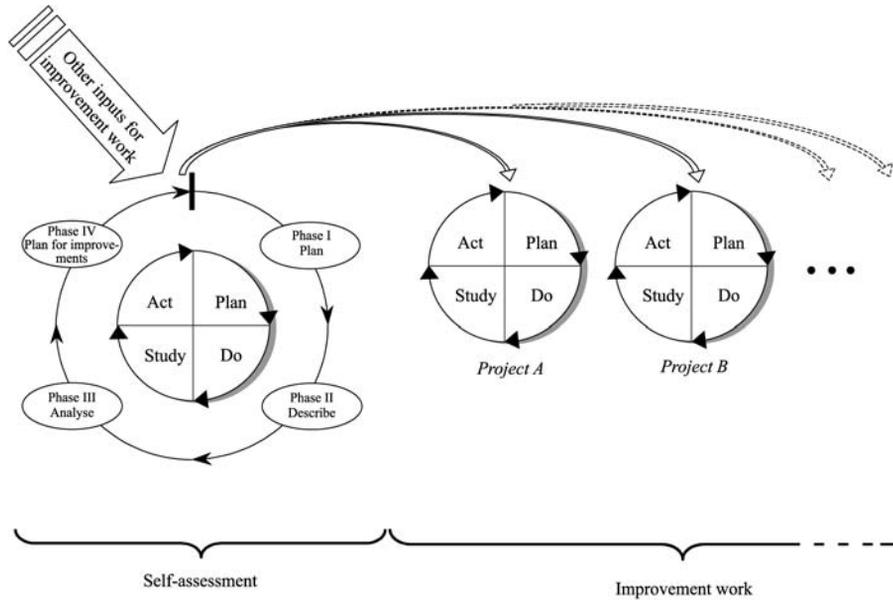


Figure 3.
Self-assessment and improvement work seen as two interdependent and consecutive cycles

Source: Svensson (2002)

In order to accomplish the self-assessment work, there is a need for some sort of tool built on the TQM values. In most cases these tools consist of a number of questions related to different aspects of the organization's work. The description, in the "Do phase" in Figure 2, is then obtained by answering these questions. The "Analysis phase", when following the quality award application process, is a consensus one, which means that a group of examiners first individually analyze the description, and then meet and agree on a joint evaluation, with a joint feedback report as a result. This report consists of strengths and improvement possibilities found in the organization's description.

Tools for self-assessment

The tools used to create the description are often quality award criteria, such as those used in the Malcolm Baldrige National Quality Award (NIST, 2003) or the European Quality Award (EFQM, 2003).

However, the use of award criteria as a tool for self-assessment has been discussed and criticized. These booklets with award criteria are often considered too comprehensive and difficult to understand for the self-assessment work (van der Wiele *et al.*, 1996; Hellsten, 1997b; Klefsjö, 2003). They also include a scale of points summarizing the TQM maturity of the organization. This scale often results in a focus on points instead of the improvement possibilities. Further discussions can be found in Conti (1997, 2001) and Klefsjö (2003).

Based on these comments, as well as experiences from two earlier projects within the education sector, in which people from Luleå University of Technology have been involved (see description in Svensson and Klefsjö, 2000), a new tool was developed for the self-assessment project, discussed in this paper. It was called *Lärostegen* in Swedish, which roughly translates into English as "the learning steps" or "the learning ladder".

The “Lärostegen” tool

“Lärostegen” is based on the four areas:

- (1) customer co-operation;
- (2) leadership;
- (3) employee commitment; and
- (4) management of processes (Figure 4).

These provide a model of an organization’s components (Svensson, 2003). The TQM basis in “Lärostegen” rests on the six core values mentioned earlier.

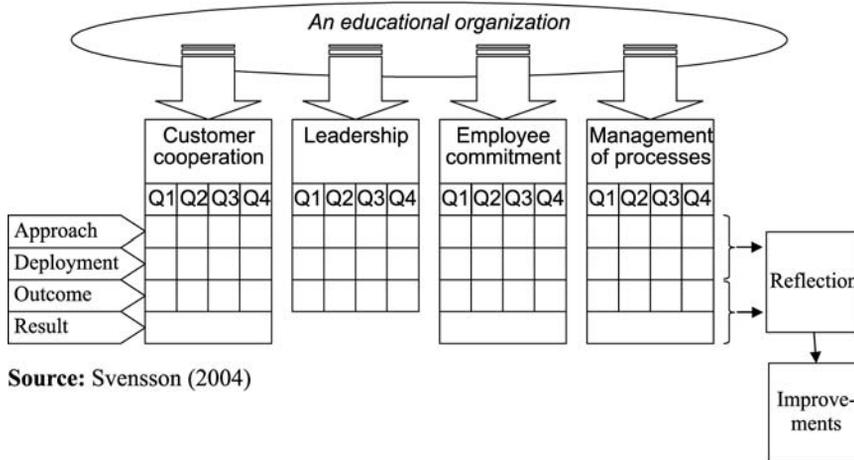
The use of “Lärostegen” for the self-assessment of an organization consists of two major steps. First, an “overview” shall be written to describe the frame and structure of the organization, its values, and who the customers are, for instance. Second, the work within the organization shall be described in more detail by answering four different questions within each of the four areas. The structure is illustrated in Figure 4.

The questions in each of the four areas are formulated to stimulate systematic work with quality improvement and are called “area questions”. In each one of the areas, four area questions can be found, denoted by Q1-Q4 in Figure 4. Each one of these area-questions consists in turn of three sub-questions, which are of the type:

- (1) How are we working (approach)?
- (2) To what extent do we do it (deployment)?
- (3) What outcome does the deployment of the approach lead to (outcome)?

In each one of the four areas, one final question related to results within that area is included, namely: What results do the deployments of the approaches lead to (results)?

Specific to “Lärostegen”, when compared to other similar tools for self-assessment, is that two types of results are asked for. The first type, called “outcome”, is related to the use of a certain approach. This provides a direct link between “approach”, “deployment” and “outcome”. The “outcome” shall answer whether the approach leads to what is aimed for. For example, if the organization uses one special activity to collect



Source: Svensson (2004)

Figure 4. The structure that the tool “Lärostegen” is based on

data about customer needs and expectations, the “outcome” should show whether the organization receives useful data about customer needs and expectations from that particular activity. The other type of result, called “result”, is connected to what all the information gathered within the area shows, e.g. including what needs and expectations the customers really have.

Finally, two questions covering dimensions called “reflection” and “improvements” are included, in relation to all the four areas (Figure 4). The first of these questions deals with how the organization reflects on the usage of the approaches that are described in the four areas and what the approaches imply in the form of outcome and results. The second one is related to how the organization improves the approaches and deployments based on these reflections. The following questions are formulated:

- (1) How do we reflect on our approaches and deployments (reflection)?
- (2) How do we work to improve our approaches and deployments (improvements)?

The reason for putting in “improvements” as a special dimension is to emphasize the importance of accomplishing improvement work based on the reflections within a company or organization. If no such improvement work follows, no improvements and no learning will take place as a consequence of the reflection. Accordingly, this fifth dimension emphasizes the TQM-value of “continuous improvement”.

Furthermore, the sequence of dimensions, “approach”, “deployment”, “outcome”, “result”, “reflection” and “improvement” is closely related to organizational learning as discussed by Kolb (1984). An organization, which starts improvement work without basing it upon any evaluation, works unsystematically from a learning point of view. So, the distinction between the dimensions “reflection” and “improvement” is also made to accentuate the connection between self-assessment and organizational learning.

The upper secondary school project

The planning of the project started with two meetings between the upper secondary education officer in Luleå and two representatives of the Luleå University of Technology. Discussions during these meetings led to a proposal and financing of a five-year long project that should include two separate self-assessments (two rounds in Figure 2) with improvement work in between, as in Figure 3. Each one of the four upper secondary schools should perform self-assessment within their own organization and the descriptions should be exchanged between the schools during the analysis phase, partly in order to learn from each other. The details of the first round are illustrated in Figure 5. This proposal was then discussed further with the group of ten school principals at the four upper secondary schools; at each one of the schools there were two or three principals who were responsible for different programs or different age groups. The new tool “Lärostegen” was also presented and studied.

Accomplishment of the upper secondary school project

During the autumn of 2002 the self-assessment project was launched by the upper secondary education officer as a part of the work with quality issues. There were two or three school principals working at each of the four schools. Altogether they were ten school principals.

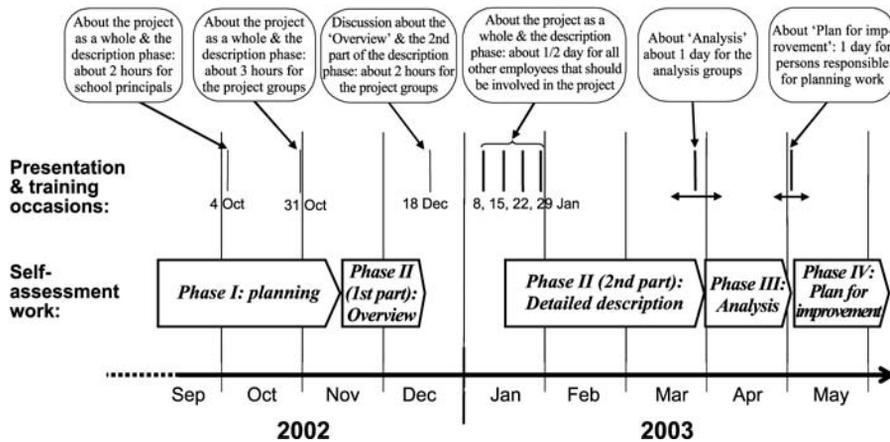


Figure 5.
An overview of the project
plan for the first round of
the self-assessment project

The upper secondary education officer and the ten school principals constituted the management group that decided to carry out the self-assessment project. A number of meetings were held with the representatives from the Luleå University of Technology.

The management group decided that TQM-based self-assessment should be accomplished at each one of the four upper secondary schools. Our impression was that the group was fairly enthusiastic and looked forward to the start. The principals declared that it was important to include all the staff, and possibly also the pupils, in the work.

To support the work with self-assessment at the four schools, a number of meetings were held with representatives from the Luleå University of Technology. Some of these included education related to TQM and self-assessment given by representatives from the university. These meetings can be summarized as:

- Discussions and planning with the upper secondary education officer.
- Discussion with representatives from the municipality to coordinate the self-assessment project with another project related to implementing balanced scorecards[4].
- Meetings to discuss and plan education with the upper secondary education officer and the school principals.
- Some of the days were devoted to participation in the self-assessment work at different schools.

During the project, attitudes of the participants were followed up using questionnaires and interviews (Svensson, 2004). The different occasions when the empirical evidence was gathered, were:

- The four educational events, one at each of the four different schools (January 2003).
- Questionnaires answered by all staff members, including the school principals (May 2003).
- Interviews with the principals and the upper secondary education officer (April 2003).
- Questionnaire to all the staff (December 2003).

The failure of the upper secondary school project

By May 2003 the “description phase” should have been finished (see Figure 5) and education in how to manage the “analysis phase” was offered at the schools. At this point, the self-assessment activities had decreased at the four schools. But also, these schools had reached different levels in the project; some of them had not really finished their descriptions, while others had taken small steps into the analysis phase. During the autumn 2003, there was uncertainty at the schools whether the self-assessment project should continue or not. As a result of this, a meeting was held with the ten school principals, representatives from the municipal education authority and the Luleå University of Technology.

The situation was discussed. All school principals expressed the opinion that a majority of their staff wanted to stop the project and a decision was made to discontinue the work. All people represented at the meeting agreed on the importance of learning from the experience, and therefore decided to investigate why the situation had occurred.

The evaluation of the project at the upper secondary schools

In order to investigate the experiences of the project among the staff within the four upper secondary schools, interviews were conducted with a questionnaire chosen as the most feasible way of collecting data.

Accomplishment of the interviews

The interviews were carried through as semi structured by use of an interview guide.

Accomplishment of the questionnaire

The questionnaire was created with both open and closed questions; see Svensson (2004). The questions were related to:

- personal experiences of the project and the way it was performed;
- the “Lärostegen” tool;
- personal and organizational learning;
- reasons why the project had to be stopped; and
- the suitability of using the TQM-values and self-assessment in an educational organization.

The questionnaire was distributed to all members of the staff at the four schools. In order to obtain people’s opinions on the project when it was still fresh in their minds, it was decided to distribute the questionnaires as soon as possible, which was in December 2003. However, that led to a rather low response rate (about 20 percent) since the staff had many other duties during the last weeks of the term. As a result of this, the analysis was limited to interpretations of written words and comments, no statistical analysis was made.

The analysis of the questionnaire replies mainly consisted of searching for potential patterns among the respondents’ answers studying their own words. This methodology of reading the answers carefully in order to find similarities, without connection to a specific question is called thematic. As part of the thematic

methodology, the following three criteria (Lindholm, 1999) were used in order to find different themes:

- the respondents' spontaneous reaction to the project;
- whether the respondents reiterate the same thing several times, i.e. do they return to the same point in their comments;
- what do the respondents emphasize.

As a first step, the answers were put in groups depending on the content. These groups were thereafter given headings based on the shared message. These headings are the twelve different themes shown in the left-hand column of Table I.

The second step was to clarify what the themes dealt with, and how were they connected to the project. The result of that step is shown in the middle column of Table I.

The third step in the data structure dealt with searching for similarities among the areas to which the themes are connected. This led to the themes being clustered in the four main groups shown in the right-hand column of Table I. Most of the 12 themes were connected to either the TQM triad model (Figure 1) or to the "planning phase" in the four phase model of self-assessment (Figure 2). However, two themes, which could not be included here, resulted in the separate main groups "Support" and "Result", respectively.

The 12 themes discovered in the first step of the thematic analysis are found in the left-hand column. Most of these were found to be connected to either the "TQM triad" (see Figure 1) or the "plan phase" of the self-assessment work (see Figure 2). Additionally, two themes connected to "support" and "result" were discovered. These connections are shown in the middle and the right-hand columns. The data is now discussed in relation to the four main groups shown in the right-hand column of Table I.

The main group "Self-assessment phase 1". The themes in this main group deal with fundamental matters for the project that might be called planning issues.

Themes	What the themes are connected to	Found main groups
Leadership and organizational aspects	Planning	Self-assessment phase 1
Time and resources	Planning	
The purpose of the project	Planning	
The project	Planning	
The field of education	Planning and values versus school environment	
Time period and context	Planning versus school environment	
The concept "customer"	Values	TQM-triad
Accomplishment of the self-assessment	Methodologies	
Collective assessment	Methodologies (partly not TQM-based) and Phase II	
The "Lärostegen" tool	Tool	
Assistance from the Luleå University of Technology	Support	Support
Different view of business	Result	Result

Table I.
The 12 themes and the main groups found by the thematic analysis

First, the theme “Leadership and organizational aspects” comprises several different parts that might be described as four sub-themes, namely:

- (1) *Leadership on different organizational levels.* There was dissatisfaction about the leadership on different organizational levels. Comments not only related to the Swedish National Agency for Education and the governmental level, but also to educational issues on the municipality level. An example is: “sometimes I feel that the government, the Swedish National Agency for Education, the upper secondary education officer, and the school principals construct pedagogical objectives that are not based on what really is needed and urgent”. Foremost, the respondents have commented on the leadership by the principals and the upper secondary education officer and, to some extent, the municipal education officer. One respondent wrote: “. . . this project was overkill, since there are large deficiencies within the leadership as well as in the participation among employees, and there is also unwillingness to make changes within the school in general”.
- (2) *Top-down work.* The fact that the self-assessment project was initiated by the upper secondary education officer, and that the main work during the planning phase was done by the management group, made some respondents to look on the self-assessment project as too much top-down. One of them commented: “I’m irritated to have been involved in a project that was controlled from above, once again”. The top-down view has also been connected to the fact that a special tool, “Lärostegen”, was used and led to too much control of what should be assessed. “Lärostegen” is also commented on in the analysis of the main group “TQM-triad”.
- (3) *Establishment.* According to several respondents, insufficient support for the work with self-assessment was provided for the staff involved in the project. One comment was, for example: “It was neither established, nor checked, if the project was feasible at the four schools”.
- (4) *The staff.* Some of the respondents expressed their disinclination and indifference towards participation in the self-assessment work. One example is: “there was a lack of widespread and genuine interest among the staff”.

Second, within the theme “Time and resources” it is obvious that a lot of people felt that they had not had time enough to work with the self-assessment. Several people said that they had too much work to do even before the self-assessment work started. For instance, one respondent wrote: “If you take such things seriously, some people have to have reduced teaching hours in order to be able to participate.”

Third, the theme “Purpose of the project” comprises lack of discussion or information why the project should be accomplished at all. For instance, one of the respondents said: “Aim and goals were unclear. For whom is this performed? And why? This was very unclear. What was the vision of the project? What is in it for me?” Here some links might be found to the top-down design of the project, criticized by some of the respondents.

Fourth, the theme “The project” deals with general criticism about how the project had been carried through: “This is a good example of how a project is not to be

accomplished". According to one respondent "...this project is another failure", and another one said that "it is not easy to apply a complicated quality systems in schools".

Fifth, the theme "The field of education" embraces respondents' views as to whether the project assesses things that are important in schools: "withdraw the project, maybe suitable for the industry". Since a lot of the comments here are linked to the tool, this theme partly overlaps the theme "The Läröstegen tool" below.

Sixth, the theme "Time period and context" comprises comments about the situation for the upper secondary school in terms of financial problems and threats of redundancies. As one of the respondents said: "The aim of quality work is necessary and shall always be developed at a school for the pupils' own good. But the accomplishment of it might be done in an easier way; this is why the project failed. Wrong timing due to staff redundancies and scepticism due to earlier failed projects."

The main group "TQM triad". There are four themes that are connected to the TQM triad, which means that respondents have commented about the TQM values, the self-assessment methodology, and the "Läröstegen" tool that was used in the project.

First, regarding the TQM values, there were both negative and positive attitudes among the respondents. Customer-focus, in particular, was mentioned by some respondents, as a value that is impossible to use in educational organizations. For example, one respondent said: "Do not like the word 'customer', it feels completely wrong". But, on the other hand, there were positive comments as well about the use of the customer concept. One respondent said: "Started to think more about quality and the customers".

Second, the self-assessment methodology was questioned from different perspectives by several respondents. Some respondents had experienced the self-assessment work as complicated, and some of them thought that it should have been performed in an alternative way. There were also opinions about the subjects addressed in "Läröstegen". The phenomena to be assessed, and how this should be done, ought to be decided together with co-workers, according to some respondents.

But there was also criticism about the usage of collective methodologies on a more general level. Respondents wanted to focus on the teaching in the classroom. One respondent said: "The concepts are relevant, but they function individually among teachers provided that he or she is committed to the work and reflects about what he or she is doing. Organizing collective methods is just a waste of time, I think". Another respondent said: "it is the quality of knowledge that shall be assessed" and another said that "other forms of further education are better".

Several of the respondents commented on the "Läröstegen" tool. These comments were given from different perspectives. One type of view was that the tool is too comprehensive. Another comment was that it was hard to understand the questions in "Läröstegen", and a third view was that it does not include the parts of the work that they thought were most relevant.

The questions were experienced as abstract, and one respondent wanted, for instance, instead, to evaluate not only more concrete issues as mentorship, grading, team-working and harassment, but also forms of cooperation between the school and future employers.

In addition to what was said about "Läröstegen", the main comments dealt with excluding the word "customer" from the tool.

The main group "Support". Several different points could be identified in relation to the respondents' view of the support given by the Luleå University of Technology. One thing was the "TQM specific language" that was used, and the view that it was difficult to understand. Another thing that respondents noticed was that of, not only the lack of communication in general, but also the more specific situation within the upper secondary education in Luleå with the overhanging threat of redundancies and financial problems. Too little training in self-assessment was a third thing mentioned and also a general question whether the university representatives should not have been more involved in the practical self-assessment work.

The main group "Result". Several comments here were related to the fact that respondents found out more about how other members of the staff worked. Respondents also emphasized, however, that there was no common view in the organization as a whole. Examples of comments were: "I now know more about how other teachers work", "How differently we work in the different programs", "There is no common view about quality within the school. We all have different opinions depending on which subject is being taught. Control documents say one thing, the resources another and we all try to survive in that reality."

Analysis

The main part of the analysis is made using the structured empirical data from the questionnaire as described above. In addition, the interviews conducted with the ten school principals and the upper secondary education officer are also used in the analysis. In order to complete the picture and broaden the view of the self-assessment project, a discussion related to the organizational context in which the project was accomplished is also included. The analysis, therefore, is divided into three parts as follows covering all of these aspects.

Analysis of the structured empirical data

The analysis of the structured empirical data is done according to the four main groups shown in Table I.

Self-assessment, "phase I". When looking at the comments relating to the six themes that have been classified in the main group dealing with planning issues ("Self-assessment, phase I" in Table I), it is obvious that they are very similar to the issues mentioned as important in the "planning phase" of Figure 2.

This implies at least two things. One is that the "planning phase" was not performed carefully enough and in a satisfactory way. Also connected to the "planning phase", is the fact that it is important to design the work in the four phases of the self-assessment methodology in relation to the resources, maturity and possibilities of the organization in question.

The TQM triad. The themes connected to the main group "TQM-triad" in Table I also point towards the need for sufficient training, where all the three components in the triad are discussed. According to the respondents, this point was not paid sufficient attention during the project. Due to the amount and the emphasis of the negative comments related to the use of the word "customer", it is obvious that this word has caused problems. This underlines the need to emphasize the meaning of the TQM value "Focus on customer", but, perhaps, not use the word customer.

However, the respondents' statements that the questions in "Lärostegen" were too abstract, also mentioned that mentorship, grading, issues of harassment, levels of compatibility between schools and working life, and work within teams. These things are, nevertheless, assigned to different questions in "Lärostegen". For instance, the fact that the pupils should not be harassed must be considered as a need within that group of customers, and ways of cooperation between the school and future employers should be considered among the needs and expectations of the employers as a customer group. One of the questions within the area of processes, in fact states: "In what way do we stimulate communication and cooperation between actors related to our education process?"

This question also clarified and exemplified such interactions as "between teachers within a subject or within different subjects, between teachers and other staff members, between employers and pupils and between employers and suppliers".

One may wonder why the respondents do not see these relationships. Should tools such as "Lärostegen" be made even more explicit, or is the situation dependent on bad communication related to the interpretation of the questions? Another explanation might be that due to the strong focus on "how" activities are done, the result of these activities, "what" the output is, is put too much in the background, at the same time as these things are considered by many to be the most interesting. In "Lärostegen" the "output" is requested in the sub-questions of the area-questions. Based on earlier experience (Svensson, 2002), this structure was chosen to avoid exactly this situation.

Mistrust of the management is something that was not discussed before the project started. Here most comments are related to the principals' leadership, but leadership at other levels is also commented on.

Assistance from Luleå University of Technology. Here it is obvious that different people, within upper secondary school education, as well as those involved from the Luleå University of Technology, have had different views about their roles and also different expectations. Most likely, there are several reasons for this. However, unclear roles result from lack of communication and inadequate planning. Once again, the need of a careful planning phase is emphasized. This is also underlined in the discussion below on organizational aspects.

Result. Finally, there are some findings related to the result of the self-assessment procedure conducted within the four schools. Unfortunately, one thing, mentioned by several respondents is that self-assessment work has been experienced as something negative. But on the other hand, several respondents also mentioned that they had realized that different people in a unit have various views of quality, and they also use different methodologies in their daily work. So, although the "analysis phase" (the third in Figure 2) was not fully accomplished at some schools, some experience about the subject for assessment were gained. It seems that, for at least some of the respondents it has been fruitful just to discuss questions like those in "Lärostegen". A similar result was found in another study of self-assessment in educational organizations described in Svensson (2002).

Analysis of the interviews with school principals and upper secondary education officer
Each one of the ten school principals, as well as the upper secondary education officer, was interviewed individually for about one hour during March and April 2003. All

interviews were tape-recorded and analyzed. A number of interesting points worthy of consideration can be found and these are therefore briefly commented on below.

Knowledge about the project, TQM and self-assessment. Most of the principals had, at the start of the project, only brief knowledge about the TQM concept and what self-assessment really means. These concepts were probably not sufficiently established and understood within the management group before the project started. The principals were not quite convinced about the benefit and found it difficult to explain the ideas when questions were asked within their organization.

Furthermore, they were not sufficiently aware of the background to the project. The project as a whole was not sufficiently well rooted in this group by the upper secondary education officer and the project group. The impression of enthusiasm in the beginning was probably more due to a conviction that it was already decided that the project should be performed rather than being a genuinely convinced of its suitability. Here it could be added that several of the principals were employed on short-time contracts, which might have influenced their inspiration and willingness to question the project at the beginning.

Experiences of the project. The principals mentioned that several improvement possibilities had been identified, but at the same time they felt that the self-assessment process using "Lärostegen" had not "got to the bottom" of problems, and they felt disappointed about that. They had expected an assessment on a more detailed level. They said that they were, in general, more hesitant about the project when they were being interviewed than they had been at the beginning. It was also apparent from the interviews, as well, that the self-assessment work was performed quite differently at the various schools. This is partly due to the fact that the project group emphasized that, as much as possible, the project should be "owned" by the principals themselves, and they should be free to perform the work the way they wanted, although support from the project group was available if they needed it.

No exchange of experiences between the units. It was obvious from the interviews that the project and the problems with self-assessment were not discussed at the regular meetings the principals had with each other and the upper secondary education officer. This seems strange, in view of the size of the project, and the fact that all the staff were included.

Finally, we must take up the interview with the upper secondary education officer. Her opinion was that self-assessment is a suitable methodology, since it leads to the staff themselves identifying improvement possibilities and improvement actions. She said that it is important to discuss such concepts as "quality" among the staff to create a more common view and that she had hoped the project would iron out differences in values and culture among the four units. She also said that the project needed more resources than she had realized at the beginning, and that she has now realized that at least a presentation of an "overview" at different schools would have been beneficial, and created a common and significant frame of reference for the school work. According to her, the opinions about "Lärostegen" differed among people at the schools. Some people liked the systems view, but others had expected a more detailed level. But, as far as she had heard, nobody had said they felt it was unsuitable. She also confirmed that only reports of the work within the project were given at the regular meetings with the principals, and that there had been no discussion about experiences.

Analysis related to the organizational context

In order to broaden the analysis of the project, it seems appropriate to describe the organizational context. This step is undertaken on account of the fact that several organizational aspects have been identified in the thematic analysis. In Figure 6, the self-assessment project makes up the core and the starting-point. Two groups of people are involved in the work with self-assessment: the core group is that of the school principals and other employees at the four upper secondary schools, following that, the different organizational decision making personnel in the municipality are also shown as involved.

The thick black lines with end dots show which levels were involved in the self-assessment work. The black arrows show some form of communication, such as the transfer of information and discussions between different levels. Here the possibility of these arrows in practice going between two levels that are a long way apart is disregarded. The white arrows show different kinds of contacts between the upper secondary school and the Luleå University of Technology. But these two kinds of arrows also show the possible gaps that might arise, if they just showed a possible connection, but do not contain any substance in reality. Apart from the black arrows, there might have been contacts between other levels than those just close to each other, for example teachers and somebody on the political levels might have had contact.

Based on Figure 6 it is easier to describe two circumstances that have not been mentioned earlier in this paper.

Figure 6 shows the context in which the self-assessment project in the upper secondary school was accomplished. The two lines with dots show the active levels within the self-assessment work. The black arrows show transfer of information between different levels. Here the possibility that these arrows in practice might go between two levels that are a long way apart is disregarded. The white arrows show different kinds

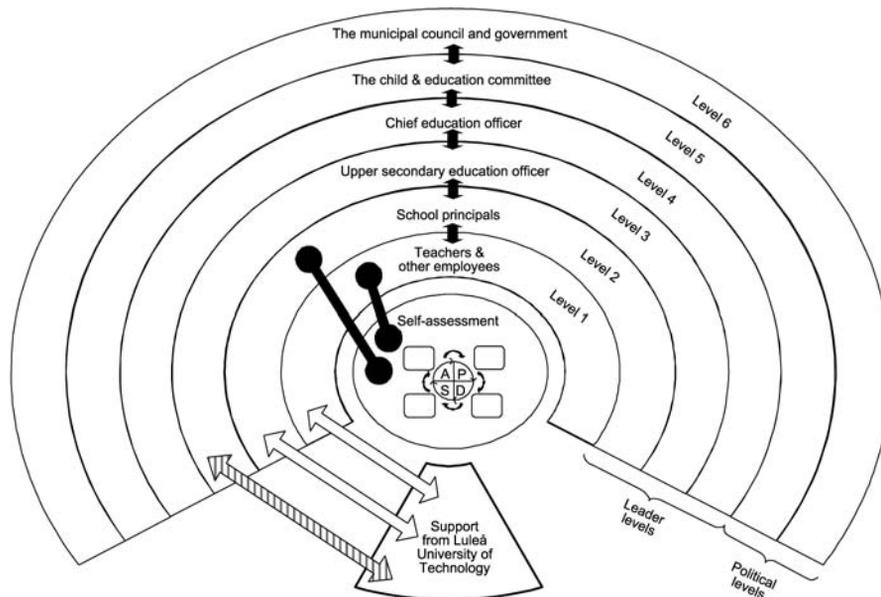


Figure 6.
The context where the self-assessment project was accomplished

of contacts between the upper secondary school and the Luleå University of Technology. But these two kinds of arrows also show that several possible gaps might occur due to lack of communication between the organizational parts or levels that are linked by the arrows. The shaded arrow between Luleå University of Technology and the upper secondary education officer shows principally the initial contacts of the project.

One of the two circumstances mentioned is related to organizational turbulence at some levels. First, the chief education officer (level 4) left during spring 2003. Furthermore, the upper secondary education officer (level 3) left early in the summer 2003 and this was the person who initiated the project and engaged the Luleå University of Technology. Thereafter, the politicians involved decided that level 3 should be abolished. Instead, the new chief education officer was expected to have direct contacts with the upper secondary school principals. A chief education officer was hired to fill the vacancy, but left during the summer, so a temporary appointment was made for the rest of the year 2003. In January 2004 one person was employed as permanent chief education officer. Furthermore, among the group of school principals two left during 2003 and one new person was hired. This turbulence received considerable media attention and certainly influenced the project in a negative way, since the people in different municipality levels were not sufficiently informed about the project and, maybe, doubtful about the benefit.

Another circumstance worth mentioning is that a second quality project was launched by the municipality during 2002. It was decided that the entire municipal administration should use balanced scorecards. As a result, there were two large projects being implemented in parallel, and these were seen as rival projects by many people participating in the self-assessment project. This situation was handled by discussions between the upper secondary education officer, people at municipality level responsible for the implementation of balance scorecards, and representatives from the Luleå University of Technology. However, it is doubtful whether the staff at the four schools really saw the synergy potential in the two projects.

Nevertheless, different approaches should have been used in the case of the two techniques. The decisions about the use of techniques were taken at different levels in the municipal organization. The self-assessment project was launched at a lower level (level 3 in Figure 6) and the decision about use of balanced scorecard was taken at a higher level (level 6 in Figure 6). Note that both the upper secondary education officer that decided about self-assessment and the leader of the implementation of balanced scorecard left their positions during 2003.

Conclusions

When summarizing the results from the three analyses discussed above, as well as other experiences from the two earlier projects described in this paper (Svensson, 2004; Svensson and Klefsjö, 2000; Svensson, 2002) one important point is how an organization enters a self-assessment project.

Many people do not seem to have thought very much about what is considered to be quality in the environment in which they operate, and even less have a shared view within the organization. When the requirements are laid down to perform some form of quality improvement work, or when there is a will to work with quality improvements, the result is too often that the organization starts working with self-assessment

Points to consider during the planning phase

Comments

What is the purpose of the self-assessment project; why should self-assessment be performed and who is it aimed at?

A basis for all the work with self-assessment is to formulate an aim. The aim should clarify what the organization wants to achieve with the resources invested in the self-assessment work. The main aim with a TQM-based self-assessment should be to create a platform for the organization's current ways of working on a systemic basis for the improvement work. Another aim could be to stimulate employee commitment. But then the question arises whether all the employees want to be involved. Another question is whether it is a TQM-based self-assessment that should be performed and why? Those who are to be involved in the work with self-assessment must understand why they should participate and why the work is to be done. Otherwise there is a risk that the motivation to participate is low right from the beginning since the work can be interpreted as just another duty.

What organization is to use self-assessment?

It must be clarified what should be assessed; which "organization" is to be assessed. Is it, for example, the activities within a school, a program, the responsibility area of a school principal, a university, a department, or a faculty? Sometimes a function can serve several organizations and it might be questioned whether it should be part of the assessed organization or not, and what are the consequences it will have.

What are the conditions in an organizational context?

Is there support in the organization for starting work with self-assessment and the improvement work afterwards? Examples of obstacles might be lack of long-term perspective, lack of internal support, lack of cooperation with higher organizational levels, forthcoming organizational changes such as staff redundancies or new leaders. If organizational changes are planned ahead, the project must be structured such that it is possible to continue the self-assessment to the end, in order to give sufficient value.

During what time period shall the project be carried through?

The self-assessment work should be done at a time point when it is suitable to carry it out with other routine tasks and projects. A long pause in self-assessment work is negative and it is also dangerous if the work takes too long a time, since the description then can refer to something that was reality earlier instead of what is reality today.

Which one of the self-assessment methodology variants shall be used?

There are different ways to perform the self-assessment. The description of the four phases (see Figure 2) is on a general overview level; different ways of gathering facts and compiling the description, as well as performing the analysis afterwards, should be considered.

Table II.
Some points to consider during the planning phase

(continued)

Points to consider during the planning phase	Comments
What tool shall be used?	Different tools imply differences related to what shall be assessed in an organization and in what detail. This, in turn, means differences in the resources needed.
Who shall be involved in the project?	It is often emphasized that the more people in an organization that are involved, the better the description will be and the higher the employee commitment. On the other hand it is also important to realize the practical consequences of involving many people. First, there is the question whether all people want to be committed in a TQM-based self-assessment. If not, how should that situation be handled? Second, there is a question of resources. Can everybody get sufficient time to participate? Third, there is a question how those who should be committed should be involved. Fourth, in which parts, or in which phases of the self-assessment should each participant be involved?
It must be decided what education and training is needed	What previous knowledge does each project participant have and to what extent is new knowledge needed? This is connected to what methodology and what tool are chosen, but also to resources; what amount of resources can be spent on training, for teaching people as well as for those who will or need to gain more knowledge.
It must be decided if any external support is needed, and the role that support should have	If external people are involved to support the work with self-assessment, it is important to clarify the extent and the roles of the different people involved. An external person can, for example, be involved as a support to create the project plan, but it is important to clarify who has the responsibility as project leader to take the different steps and decisions
What resources are required if the self-assessment work is formulated according to the responses to the questions above?	↔ What total amount of resources is available to be used for the self-assessment work?

Table II.

implementation, or by some other approach? It is important to pay attention to the overwhelming organizational context for the organization working with self-assessment. Here, it is also important to understand that the aim of TQM-based self-assessment is to create a systemic view of how the organization as a whole works today, and not merely focus on what happens in a particular classroom.

A second point of importance is resources. If a self-assessment project is to be carried out, there must be enough resources. One possible way to assure this is to choose a form of self-assessment methodology, including the choice of tool and the number of people to be involved, taking care of the aim and taking the available resources into account. The importance of the planning phase is also clear here.

A third point that cannot be overemphasized is communication. This concerns communication of the needs and expectations within the organization that is to use the self-assessment, as well as between this organization and any external support. As a part of the communication, different roles among the people involved in a self-assessment project have to be clarified.

The co-workers' view is something that also has to be considered and handled in a proper way if a high level of participation is to be created. This is important since there might be differences among the co-workers' views or differences between the views of co-workers and leaders. Examples of important views are: their confidence in the leadership, their perceptions of quality and whether the work in an organization shall be based on TQM values or something else. Aspects, such as the way employees interpret the possibility of change, is something based upon a self-assessment, as interference from higher organizational levels might hamper the success of self-assessment work. Such discrepancies have to be handled, preferably at the start any assessment work, i.e. during the planning phase.

Recommendations

Out of what is concluded, some practical advice is formulated in Table II. These issues might be considered during the planning phase of a self-assessment project in order to increase the possibility of success. It is important that these points are seen as suggestions that might be useful to discuss during the planning phase. The list does not primarily consist of new ideas, but it is intended to be a way to emphasize things that have been confirmed as important by users of self-assessment projects. The response that is obtained by answering the questions in the list resembles a specification of requirements, but these have to be compared to the available resources within the organization.

Notes

1. In this paper the term self-assessment is preferred to self-evaluation.
2. In this paper self-assessment is considered as a methodology and not as a tool.
3. Here we think of different quality awards, such as the Malcolm Baldrige National Quality Award in the USA (NIST, 2003) and the European Quality Award (EFQM, 2003). The process is briefly described later in the paper.
4. Balanced scorecard is a way to control the organization by focusing on a number of perspectives, and not only on financial measures (Kaplan and Norton, 1996). Often the four perspectives are customers, business processes, learning and growth and financial perspectives. We will return to the balanced scorecard project in the discussion part of this paper.

References

- Ahmad, Z.A. and Zain, Z.M. (2002), "ISO 9000 in the Malaysian higher education: lessons to be learned", *Proceedings from the Sixth International Research Conference on Quality, Innovation and Knowledge Management. Kuala Lumpur, February 2002*.
- Anderson, M. (2002), "TQM in higher education: an international perspective", *Proceedings from the Sixth International Research Conference on Quality, Innovation and Knowledge Management. Kuala Lumpur, February 2002*.

- Bergman, B. and Klefsjö, B. (2003), *Quality from Customer Needs to Customer Satisfaction*, 2nd ed., Studentlitteratur, Lund.
- Christensen, T. and Laegreid, P. (2001), *New Public Management: The Transformation of Ideas and Practice*, Ashgate, Aldershot, p. 2.
- Conti, T. (1997), *Organizational Self-assessment*, Chapman & Hall, London.
- Conti, T. (2001), "Why most companies do not get the most out of their self-assessments", *Proceedings from ASQ Annual Congress, Charlotte*.
- Dahlgaard, J.J., Kristensen, K. and Kanji, G.K. (1998), *Fundamentals of Total Quality Management*, Chapman & Hall, London.
- Dale, B.G. (1999), *Managing Quality*, 3rd ed., Blackwell Publishers, Oxford.
- Dean, J. and Bowen, D. (1994), "Management theory and total quality: improving research and practice through theory development", *Academy of Management Review*, Vol. 19 No. 3, pp. 392-418.
- Deming, W.E. (1986), *Out of the Crisis*, Cambridge University Press, Cambridge, MA.
- Deming, W.E. (1994a), *The New Economics for Industry, Government and Education*, Center for Advanced Engineering Study, MIT Press, Cambridge, MA.
- Deming, W.E. (1994b), "Report card on TQM", *Management Review*, January, pp. 22-5.
- EFQM (1997), *Self-assessment Guidelines for Companies*, European Foundation for Quality Management, Brussels.
- EFQM (2003), *Self-assessment Guidelines for Companies*, European Foundation for Quality Management, Brussels.
- Fredriksson, M. (2004), "From customer satisfaction to citizen interaction", doctoral thesis 2004:39, Division of Quality and Environmental Management, Luleå University of Technology, Luleå.
- Grant, D., Mergen, E. and Widrick, S.W. (2004), "A comparative analysis of quality management in US and international universities", *Total Quality Management & Business Excellence*, Vol. 15 No. 4, pp. 423-38.
- Hellsten, U. (1997a), "The springboard – a TQM-based tool for self-assessment", licentiate thesis 1997:42, Division of Quality Technology & Statistics, Luleå University of Technology, Luleå.
- Hellsten, U. (1997b), "The springboard: a strategy for continuous improvement of small and medium-sized companies", *Total Quality Management*, Vol. 8 No. 2&3, pp. 183-6.
- Hellsten, U. and Klefsjö, B. (2000), "TQM as a management system consisting of values, techniques and tools", *The TQM Magazine*, Vol. 12 No. 4, pp. 238-44.
- Hood, C. (1995), "The new public management in the 1980s: variations on a theme", *Accounting, Organizations and Society*, Vol. 20 No. 2&3, pp. 93-109.
- Juran, J.F. (1951), *Quality-control Handbook*, McGraw-Hill, New York, NY.
- Juran, J.F. (1989), *Juran on Leadership for Quality*, McGraw-Hill, New York, NY.
- Kaplan, R.S. and Norton, D.P. (1996), *The Balanced Scorecard. Translating Strategies into Actions*, Harvard Business School Press, Boston, MA.
- Kenway, J., Bigum, C. and Fitzclarence, L. (1995), "Marketing education: an introductory essay", in Kenway, J. (Ed.), *Marketing Education: Some Critical Issues*, Deakin University, Geelong.

- Klefsjö, B. (2003), "Self-assessment as a support for minor organizations to adopt TQM", *Proceedings of the Eighth International Conference on ISO 9000 and TQM, 8-ICIT, Montreal, April 23-25, 8:3*.
- Kohn, A. (1993), "Turning learning into a business: concerns about total quality management", *Educational Leadership*, Vol. 51 No. 1, pp. 58-61.
- Kolb, D.A. (1984), *Experiential Learning Experience as the Source of Learning and Development*, Prentice-Hall, Englewood Cliffs, NJ.
- Kommittén för kvalificerad yrkesutbildning (1997), *Anvisningar för ansökan till försöksverksamhet med kvalificerad yrkesutbildning 1997-09-10*, Birger Jarls Torg 5, 103 33, Stockholm (in Swedish).
- Lagrosen, S. (1997), *Kvalitetsstyrning i skolan? Research Reports No 1997:2*, Department of Business Administration, Stockholm School of Business, Stockholm (in Swedish).
- Lagrosen, S. (1999), "TQM goes to school: an effective way of improving school quality", *The TQM Magazine*, Vol. 11 No. 5, pp. 46-51.
- Lindholm, S. (1999), *Forska och skriva – En liten vägledning*, Academia Adacta, Lund (in Swedish).
- Myndigheten för skolutveckling (2004), The Swedish National Agency for School Improvement, available at: www.skolutveckling.se/in_englishn (accessed June 1, 2006).
- NIST (2003), *Criteria for Performance Excellence*, ASQ Quality Press, Milwaukee, WI.
- Oakland, J.S. (1989), *Total Quality Management*, Butterworth-Heinemann, Oxford.
- Osborne, D. and Gaebler, T. (1992), *Reinventing Government*, Addison-Wesley Publishing, Reading, MA.
- Park Dahlgaard, S.M. (2002), "The human dimension of TQM – learning, training and motivation", doctoral thesis no 55, Department of Management and Economics, Linköping Universit, Linköping.
- Porter, L. and Tanner, S. (1996), *Assessing Business Excellence*, Butterworth-Heinemann, Oxford.
- Rombach, B. (1990), *Kvalitet i offentlig sektor: att mäta och förbättra kvaliteten i landstingets verksamhet*, Norstedts, Stockholm (in Swedish).
- Saraiva, P.M., Rosa, M.J. and d'Orey, J.L. (2003), "Applying an excellence model to schools", *Quality Progress*, Vol. 36 No. 11, pp. 46-51.
- Scherp, H-Å. (2004), "Quality work from a learning perspective" (in Swedish), available: www.pbs.kall.se/pdf/kvalitetsarbete_utifran_larandeperspektiv.pdf (accessed March 3, 2004).
- SFS 1997:702 (1997), available at: www.notisum.se/rnp/sls/lag/19970702.HTM (accessed June 1, 2006) (in Swedish).
- Shiba, S., Graham, A. and Walden, D. (1993), *A New American TQM: Four Practical Revolutions in Management*, Productivity Press, Portland, OR.
- Sila, I. and Ebrahimpour, M. (2002), "An investigation of the total quality management survey based on research between 1998 and 2000", *International Journal of Quality & Reliability Management*, Vol. 19 No. 7, pp. 902-70.
- Srikanthan, G. and Dalrymple, J. (2004), "A synthesis of quality management model for education in universities", *International Journal of Educational Management*, Vol. 18 No. 4, pp. 266-79.
- Svensson, M. (2002), "TQM-based self-assessment in educational organizations", licentiate thesis, Division of Quality Technology & Statistics, Luleå University of Technology, Luleå.
- Svensson, M. (2003), *Lärostegen*, Division for Quality & Environmental Management, Luleå University of Technology, Luleå (in Swedish).

-
- Svensson, M. (2004), "TQM-based self-assessment in educational organizations help or hindrance?", doctoral thesis 2004:40, Division of Quality & Environmental Management, Luleå University of Technology, Luleå, available at <http://epubl.ltu.se/1402-1544/2004/40/index.html> (accessed 1 June 2006).
- Svensson, M. and Klefsjö, B. (2000), "Experiences from creating a quality culture for continuous improvements in Swedish school sector by using self-assessments", *Total Quality Management*, Vol. 11 Nos 4/5&6, pp. 800-7.
- van der Wiele, A., Dale, B.G., Carter, G., Kolb, F., Luzon, D.M., Schmidt, A., Wallace, M. and Williams, A.R.T. (1996), "Self-assessment. A study of progress in Europe's leading organizations in quality management practices", *International Journal of Quality & Reliability Management*, Vol. 13 No. 1, pp. 84-104.
- Zbaracki, M. (1998), "The rhetoric and reality of total quality management", *Administrative Science Quarterly*, Vol. 43 No. 3, pp. 602-36.
- Zink, K.J. (1997), *Successful TQM: Inside Stories from European Quality Award Winners*, Gower Publishing, Aldershot.

Further reading

- Brown, M.G., Hitchcock, D.E. and Willard, M.L. (1994), *Why TQM Fails and What to do About It*, Irwin Professional Publishing, New York, NY.
- Eriksson, H. (2003), "Experiences of working with in-company quality awards: a case study", *The TQM Magazine*, Vol. 15 No. 6, pp. 397-404.

Corresponding author

Magnus Svensson can be contacted at: Magnus.Svensson@ltu.se

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.