

Taking action to enhance student learning – a process for programme committees to improve courses that require development

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Abstract—A process for improving programme courses has been developed. The process has been implemented on three courses, which had reoccurring problems and/or had received significant negative criticism from students, all of which have been improved. The usefulness of the process has been evaluated both quantitatively and qualitatively. The evaluation suggests that the process is successful.

Index Terms—course development, course evaluation, higher education, programme committee.

I. INTRODUCTION

THE programme committee for the five-year master of science in civil engineering programme at Lund university, Faculty of engineering, LTH, is responsible for leading and developing the educational programme that consists of approximately 500 students, approximately 90 courses (of which 31 are compulsory or alternatively compulsory) given by 24 divisions at 10 departments.

The Faculty of Engineering, LTH, use questionnaires to gather information of the students' experiences of a course using the so-called course experience questionnaires (CEQs). For further information and background material see, for example, [1], [2]. Problems in courses can often be solved in connection with the compulsory course evaluation meeting. The programme committee has developed a structured approach for enhanced course evaluation meetings, among other things to clarify how the course evaluation is used in quality work at different levels within the organization [3].

However, sometimes efforts other than the regular course evaluation are needed to address, for example, problems that reoccur and/or significant negative criticism from students. The programme committee has developed a process (hereafter called the process), a four-step scheme, for improving programme courses, which is independent from the regular course evaluation process. Depending on the

issues, various functions will be involved such as Head of division and Director of studies, in addition to the student study council, course teacher(s) and course coordinator.

Teaching at the university is reported in [4] as a solitary business and that the individual teacher when it comes to pedagogical discussion about, for example, conceptual development and learning seems to fall back on a small network (on average 5.4 persons in engineering science) characterized by privacy and mutual trust. It is emphasised that within these 'significant networks' it is perceived as important that the discussions are of a private nature and are not overheard by anyone uninvited and it appears as if they are gatekeepers for development and change [4].

The process places a discussion about a problem, which otherwise (if it had been addressed) would probably have been dealt with within the 'significant network', in a formal meeting with people in formal functions. Although this is a major difference from the reported typical format, the aim is that several of the critical features for discussions in 'significant networks' that are highlighted in [4] should be present or developed during the process and that the process should be in the spirit of critical friends [5]: The size of the group is kept below six people to create the conditions for the group to develop and reach a level of trust and private nature; the discussion focuses on problem solving and testing of ideas for measures that will lead to a well-functioning course that everyone in the group benefits from based on their different functions. In both [6] and [7], it is described that teachers who are in a course development process can often experience anxiety and confusion, which indicate the need of a well-functioning group. In the initiation of the process, the programme committee partly takes on the role of an authoritarian leader rather than the collaborative leadership style which roles such as programme committees otherwise work from [8]. The process has been implemented in three courses, all of which have been improved. The usefulness of the process has been evaluated both quantitative and qualitative. The aim of this conference contribution is to encourage other educational leaders to act in these cases and to provide a tool—i.e., the developed process—to be used.

II. THE PROCESS

The process includes the following four steps: (i) discussion meeting; (ii) action plan; (iii) implementation; (iv) follow-up.

At the *discussion meeting*, various stakeholders meet. An invitation is sent by email, and it is ensured that a date that

Manuscript received November 8, 2023.

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works for everyone invited is found. The invitation states that the course has not delivered the desired quality and that it is not an ordinary course evaluation meeting, but a meeting aimed at dealing with specific problems. During the meeting, the process is presented. An important part of the meeting is to create a common understanding of the problems and discuss various solutions that can form the basis for the development of the action plan.

The *action plan* is developed by the teacher in collaboration with possible other resources in the division/department and in collaboration with student representatives. The programme committee provides feedback before the finalization of the action plan. The action plan defines the causes of the problems and what concrete measures will be taken before the next round of the course.

The *implementation* of the measures must take place for next year's course. It is the teacher/division/department that is responsible for implementing the measures defined in the action plan.

The programme committee makes a *follow-up* of the course after the implementation. Initially by checking the CEQ data and if a positive change is indicated, a course evaluation meeting is carried out in the normal way. If the measures had not led to any positive change, a meeting corresponding to the discussion meeting would have been held with a special focus on how the measures were implemented and what can be improved.

III. EVALUATION OF THE PROCESS

A. Quantitative evaluation

The process has been implemented for three courses. The average score for the three courses in the CEQ report for Overall satisfaction has increased from -30 to $+29$. Moreover, in two of the three courses, the share of passed students has increased which indicates an enhanced student learning: averaged over the three courses from 63% to 77%. Figure 1 presents a box plot of the change in points on some scales and questions in the CEQ report for the three courses. There are no or small changes in Appropriate Assessment that before the course development was in the range about 20–50 points in the three courses. In all three courses, Good Teaching and Clear Goals have changed from points below zero to above zero.

B. Qualitative evaluation

We have talked (one-to-one conversations) to people who have been involved in the process, to solicit feedback, to share experiences and obtain ideas to consider on further development of the process and to understand the mechanisms that drive the improvement of these courses. The persons who gave feedback on the process covered all three courses and the four different functions that have been involved. Overall issues addressed during the conversations related to: how the different parts of the process worked in the actual case; was the process part of achieving a positive development; how the collaboration between different functions worked during the process; and how the process can be developed.

Below are summaries of the different functions'

reflections and input. The text is written in a form that aims to reflect the feedback conversations.

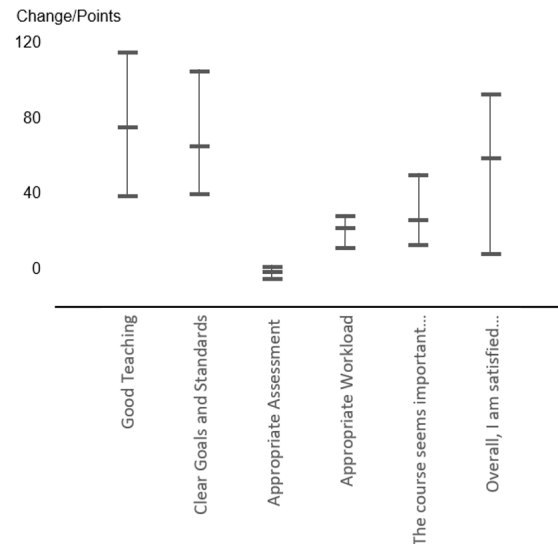


Figure 1. The change in points on some scales and questions in the CEQ report.

1) Teacher perspective

From the teachers' perspective, it was perceived as nervous to be invited to the discussion meeting and there was uncertainty about what it would entail. Especially after both motivation and job satisfaction were affected by the negative feedback in the CEQ report that put teachers in a sensitive and vulnerable situation. There was no expectation or preparation that the programme committee would get involved. From a teacher's perspective, it would have been appreciated if the invitation to the discussion meeting had been preceded by a personal contact IRL.

Initially, there were negative feelings about the process, mostly stemming from the uncertainty that had arisen, but later in the process, this turned into positive feelings based on the support the process and the programme committee provided. That the process would serve as a support could have been communicated more clearly from the beginning.

Course development would probably have happened even without the process, but not as extensive and not as well thought out. Just being called to the discussion meeting was something that initiated the development. During the discussion meeting, it was concretized what needed to be addressed. This was an encouragement to kick-start the course development. The actual implementation of the measures was the easy part, but exchanging ideas and writing the action plan were important parts of finding the right measures.

The programme committee worked well as a sounding board during the process. Particularly valuable were the discussions with the student representatives and their ability to interpret the results of the CEQ report as well as feedback on the action plan from both students and the programme committee.

2) Head of division perspective

From the perspective of the head of the division, it is important that the division's courses are appreciated and requested by the students. Given the data in the CEQ report, there was a readiness for some kind of action from the programme committee.

It was good to meet with several stakeholders in the initial

discussion meeting to address the problems and the draft action plan but at that stage, it was not clear that it was a four-step process. The discussion meeting where the problems were addressed, and the development of the action plan are considered to have been important elements for a successful change to the course. The level of support and involvement from the programme committee was perceived as good where there was a clear demand for action at the same time as it was the teachers' responsibility to find good and appropriate solutions. Because of this, there is greater commitment to change.

The fact that the programme committee was committed to developing the course was perceived as positive. When something does not work adequately in a course, the teacher often ends up in a vulnerable situation and in view of this, it can be good if an initial contact is first made in IRL or by phone before an official invitation is sent.

3) Director of studies perspective

In the role of Director of studies, the extensive CEQ working reports are not sent to you and the condensed final reports do not always contain information that allows you to get an idea of problems raised in free text responses or in discussions.

When the invitation to the discussion meeting came as well as initially in the process, there was a feeling of both threat and support, which may have contributed to it being constructive. Of course, it is not fun to be called to a meeting because a course has not worked in the desired way. The fact that the process was designed to be a support for developing the course to work better was not the first thing you thought of when the invitation was received, but gradually the understanding that it was a support increased during the process.

The process provided a clear incentive to take measures in the course and it was clear that there was an explicit expectation from the programme committee that concrete action needed to be taken. The fact that there was an established process that was presented made it feel less dramatic and less personal, which made it easier to tackle the development work.

Corresponding course development would probably not have taken place if the programme committee had not initiated the process. The director of studies would not have had any documentation or information that could have formed the basis for starting a corresponding development process with the teachers on the course. In this way, the process facilitated the director of studies' work on teaching quality at the department.

Much work was put into the development plan and the director of studies had an active role in the development of the action plan. The fact that very committed students were involved in the development of the action plan was very valuable and enabled the action plan to focus on the right things. It is emphasised that committed students who volunteer their time are very valuable for discovering the need for and implementing changes. The experience is that the fact that the course management could show that they had addressed problems and made proper efforts to develop the course was appreciated by the students who studied the course the following year.

4) Student study council perspective

From the student perspective, it is appreciated that we are listened to and that the process leads to concrete change. There has been a request for more rigorous follow-up on courses that are insufficiently planned and/or conducted. It is emphasised that it may be important to follow up the changes over several years to ensure that the changes have been quality assured. It has been easy to find student representatives who are committed when it is so clear that you are acting on problems experienced by students and it is clear that you are going to work with a change process.

IV. CLOSING REMARKS

The process has proven to work well in the three courses where it has been implemented. The quantitative evaluation shows increased student satisfaction, improved teaching and, importantly, enhanced student learning in the three courses and the qualitative follow-up shows positive experiences from all functions involved in the process.

Based on the conversations with different functions, it is concluded that: the process has resulted in well-functioning courses through well-designed action plan and development, and a sound teaching practice; the process creates a context where it is difficult to not implement a change; it is important to collaborate with the students, who are the ones that can interpret the problems from a student perspective; the invitation to the discussion meeting should be preceded by a personal contact, IRL or by phone, with the teacher; the process and its four steps should be presented clearly early on in the process.

ACKNOWLEDGMENT

The authors gratefully acknowledge teachers, students and other functions who have been involved in developing the three courses through the process, as well as the persons who have shared valuable experience and advice through the conversations.

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