An Instrument for Evaluation of an Education Programme

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Abstract—In this paper an instrument is presented that can be used for evaluation during definition and improvement of the structure of an educational programme. The instrument has been used in a pilot evaluation, from which experiences are presented.

Index Terms—Evaluation, Education.

I. INTRODUCTION

During the last years a number of new Master's programmes have been introduced at Lund Institute of Technology, e.g. Information-and Communication Techniques (InfoCom) [2]. For every programme, there is an underlying idea, both with respect to the subjects covered, and with respect to the pedagogical thoughts. These thoughts do of course influence the structure of the programme. It is important that it is clear for the students what these thoughts and objectives are, and that it is clear why a certain structure has been decided.

Evaluations and measurements are often used to monitor and improve the quality [1]. Concerning educational programmes, we think, for example, that it is important to know whether the students have the same opinion as we concerning the important objectives of the programme. We do also want to know whether the programme, so far, has met the students' expectations.

There is a lot of information available on how to evaluate courses (see for example [3]), but not as much with respect to evaluation of education programmes. Therefore, we have suggested an instrument for programme evaluation, which has been evaluated during one programme evaluation case. The instrument is presented in Section II and evaluated in Section III. Conclusions are presented in Section IV.

II. INSTRUMENT

The instrument consists of open questions and statements questions. The following questions were used in the programme evaluation case (S: statement, OQ: open question):

1. The students have had the possibility to influence the programme. (S)
2. The students have had the possibility to influence the individual courses. (S)
3. The courses have followed each other in a good order. (S)
4. The courses have met the prior knowledge of the students. (S)
5. The contents of the profiles correspond to the area of Information and Communication and the needs of the industry in the area. (S)
6. What do you think that you will work with one year after your exam? (OQ)
7. Why did you choose the InfoCom programme? (OQ)
8. What has met, or exceeded, your expectations? (OQ)
9. What has not met your expectations? (OQ)
10. Other comments. (OQ)

The instrument was presented to the students through a web-based form, and the answers were given in the following ways:

- For every statement a grade (1-5) should be given that represent the agreement with the statement
- For every open question answers were given in free text form.

In question 1 and 2 our intention was to evaluate if the students think that we have listened to their suggestions when we have met them. Question 3 and 4 should give feedback on the planning of the mandatory courses that are built on each other. To evaluate whether the students had the same opinion as our initial objectives concerning the programme we used questions 5, 6, and 7. Questions 8 and 9 were intended to answer whether the programme had met the students' expectations. The last question is motivated both from the students' point of view, and to see if there should be more questions.

III. EVALUATION OF THE INSTRUMENT

A. Method

In order to evaluate the instrument we used it in one evaluation case with students from InfoCom. After the students had filled out the form, we analysed by looking at how much use and information there was in the answers for each question. If the conclusion is that there is much information in the answers to a question it is a good question. If there is not very much information in the answers, or the information is not relevant (for us), we will probably reformulate or remove the question the next time this evaluation is carried out.

B. Evaluation case

The evaluation was carried as follows:

1. The instrument was defined.
2. A web form corresponding to the instrument was developed together with methods for automatic compilation of all answers.
3. All students in their second year at InfoCom were given a personal password. Nobody kept record of which password were given to which student.
4. The students were given about a weak to answer the questions. About a fourth (10) of the students answered the questions.
5. The answers are analysed by the investigators.
6. The result of the analysis is used in further work with programme, and it is fed back to the students. This step is not yet finished during the writing of this paper.

The analysis with respect to this paper took place in step 5.

C. Results

During the analysis we analysed how much usage they had of the answers to the 9 statements/questions in the instrument (see Section II). The results are shown in Table 1.

TABLE 1. EVALUATION OF THE ANSWERS WITH RESPECT TO USABILITY

Question/ statement	Usability of the answers for the investigators
1	This question gave us information that we did not have before the evaluation. The mean value was lower than we thought that it would be, even if it was not very low. We do not know if this figure could be higher or if it is not possible to increase it. However, we will continue to measure this figure in future evaluations to be able to consider trends.
2	For this statement we draw the same conclusion as for statement 1.
3	The answers gave us some information although it is hard to interpret the figures when we only have one evaluation to look at. However, we will continue to measure this figure in future evaluations to be able to consider trends.
4	Although this question is related to the previous one, we did get some more information from it. However, we should see if it is possible to reformulate it to give more information.
5	Even if it is hard to interpret the answers of only one evaluation the answers made us to some extent confident in that the students are rather positive to the areas compared to the needs of the industry when they receive their exam. We will continue to measure this figure in future
6	The answers made us confident in that the students are positive to the areas of the whole educational programme. However, we also see that it is difficult for the students to answer the question, and we will probably not keep it in its current form in future evaluations.
7	These answers too corresponded to the areas that we have thought of as important of the programme. However, the answers also showed that some student found it positive that some areas were *not* included. We think that it is important to keep this question in future evaluations.
8	It is hard to use the answers from this question. The students pointed to a large extent to courses that we already knew worked well. However, we will keep the question, partly because it is closely connected with the next question.
9	This question gave us some interesting answers that could be considered as one source of information when the structure of the programme is updated in the future. We will keep the question in future evaluations.
10	This question gave us valuable answers and we will keep it in future evaluations. We did not see any indications to other questions.

The result of the evaluation is that we will keep every question but question 6. We will also consider to rewrite question 4 to get more feedback on the structure and planning.

D. Discussion

It is important to evaluate the validity of the findings. The most important threats that we have identified concerns:

- Few participants: There were only 10 students who participated in the evaluation. This corresponds to about 25-30% of the students. We believe that it probably would be possible to get some more participants, but it is always hard to get people to participate in this type of study. One way is to not have anonymous password.
- Only the population from one year: The participants came from the same year (all of them started their studies 2001).

It is important to keep these threats in mind when the results are interpreted and conclusions are drawn concerning further evaluations.

IV. CONCLUSIONS

We have found that the presented instrument gives results that are interesting for further work with the programme. Concerning the generalizability, we believe that the instrument could be used as one source of information if another evaluation should be carried out of a similar programme.

REFERENCES

[1] B. Bergman, B. Klefsjö, "Quality from Customer Needs to Customer Satisfaction", Studentlitteratur, Sweden, 2003.
[2] Infocom web page, www.infocom.lth.se
[3] P. Ramsden, "Learning to Teach in Higher Education", Routledge, London, USA, 1991.