

## Use of formative assessment to improve student motivation and preparation for exams

Susanne Pors

Department of Veterinary Disease Biology, SUNDT, University of Copenhagen

### Introduction

I am one of the teachers on the course “Speciel patologi og fjerkræsygdomme” (Special Pathology and Poultry Diseases) which was held for the first time in 2011/12. The course is taught in the third year of the veterinary degree programme and is mandatory for all veterinary students. The course replaced, after a restructuring of the overall plan for the veterinary curriculum, a previous course which was placed on the master’s degree level. At the same time, the course was reduced from two weeks to one week of practical training, and the final evaluation of the students changed from an oral examination to a practical written examination. However, the structure of the course – including learning objectives, teaching and learning activities and curriculum – remained the same. In the new format of the course the percentage of students failing the final exam increased from approximately 4 % to 20 %.

When evaluating the answers from the practical written exam it is clear that the students were not well prepared for the theoretical contents and form of the final exam. There could be several reasons for this including: the structure of the course (theoretical and practical teaching are separated by up to several months), the placing of the course in the veterinary curriculum (bachelor versus master students), and the motivation of the students to participate in the course (poultry is not the most appreciated animal species among veterinary students).

These are all matters that are worth considering as possible areas of improvement, but these are also issues that are dealt with on a higher adminis-

trative level. Therefore, in this project I have chosen to focus on a didactic method that can be used within the existing format by evaluating the use of formative assessment to improve: students' motivation for learning and their understanding of the contents, level and form of the final exam, and as a method for the students to be aware of their own skills within the course.

## Method

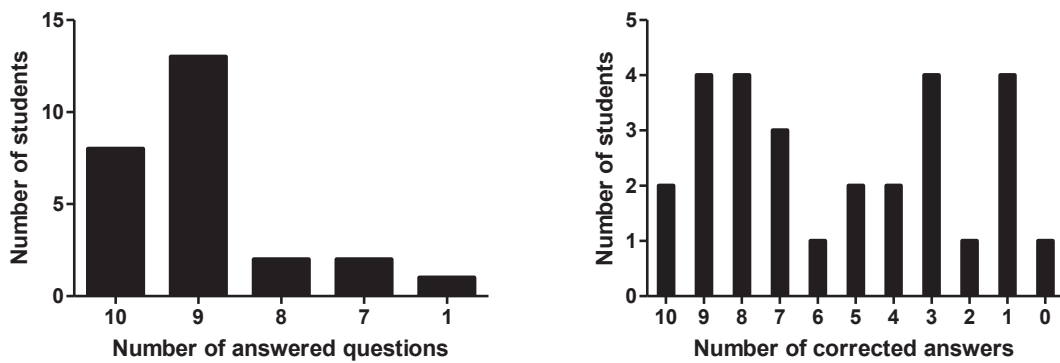
Students attending the practical part of the course in May 2012 were given a quiz with ten questions covering some of the topics included in the course curriculum. The questions were designed to have broad answers and in a form that could be used in the final practical written exam. After 45 minutes of work with the questions, either individually or in groups, all questions were answered in plenum with input from the students on each question and final validation by myself. In addition, all students were requested to answer a questionnaire before the quiz and after the plenary session. The questions regarded the students' perception of their motivation, their work during the course and their possibilities to pass the exam.

## Result

The sample of students who participated in the quiz and answered the questionnaire consisted of four males and twenty-two females, all veterinary students participating in the course for the first time. All students had participated in the teaching more than 80 % of the time. Furthermore, only two students answered that their motivation for participation in the course was below average, while the remaining stated that their motivation was average (n=20) or above average (n=4).

The number of answered questions were seven or above (Fig. 4.1A) and only one student answered only one question. The numbers of answers corrected after the plenary session (Fig. 4.1B) were fairly evenly spread from one to ten questions. However, the degree of correction was not referred in the questionnaire, which could be a useful parameter for the students' knowledge of the topics.

Before the quiz, three students were not motivated for learning and no students had the highest score for motivation. After the quiz, the motivation moved up on the scale, showing that the quiz and plenary session brought



**Fig. 4.1.** A: Number of quiz questions answered. B: Number of answers corrected during the plenary session.

an increase in motivation for learning (Fig. 4.2). The students' perceptions of their understanding of the contents of the course before and after the course remained unchanged by the quiz (Fig. 4.2).

A slight change was found in the students' perception of passing the exam in both positive and negative direction, as both an increase in score 4 (Good chance of passing exam) and score 1 (Some chance of passing exam), together with a fall in score 2 (Fair chance of passing exam) was found.

Score*	Motivation for learning		Perception of understanding of course		Perception of possibilities of passing exam	
	Before	After	Before	After	Before	After
1	3	0	0	0	0	0
2	11	8	3	3	6	8
3	12	14	19	18	18	14
4	0	4	4	5	2	4

\*: Score: 1: None, 2: Some, 3: Fair, 4: Good

**Fig. 4.2.** Motivation for studying, perception of understanding of course and perception of possibilities of passing exam before and after quiz and plenary session among 26 veterinary students.

All students participating in the formative assessment session passed the course at the following exam.

## Discussion and perspectives

Formative assessment is a teaching and learning activity that can give students information on their progression in learning the course and help to improve their next performance (Askham 1997, Biggs & Tang 2007). The feedback given by formative assessment gives the students an opportunity to reflect and improve their learning (Gibbs & Simpson 2004, Biggs & Tang 2007).

Through a quiz consisting of ten questions, the students participating in this present KNUD-project gained a higher motivation for learning. Furthermore, students can increase their awareness about their own likelihood of passing the exam and thereby this helped them to prioritize their work in preparation for the final exam. The number of questions answered was high and, even though many answers were corrected after the plenary session, this indicates that the students participated willingly in the exercise. Furthermore, the final (summative) exam will be a more familiar and known format through practising during the course by using this form of formative assessment.

Using formative assessment during the course gives me as a teacher the opportunity to adjust the planned teaching. Almost all the students misunderstood or did not answer two of the ten questions, and thereby this have us an indication that these topics need more attention in lectures. Furthermore, this can be a method to bring the theoretical aspects of the course closer to the practical parts. The two parts of the course are now separated by an interval of one to five months. Bringing more theoretical questions in to a practical setting will help the students to focus on both parts of the course, also those topics not used during the practical hands-on part of the course.

In conclusion the present project shows, that formative assessment is easily implemented in the course “Speciel patologi og fjerkræsygdomme” in the existing format of the course and can lead to an increased motivation for studying and learning in the students.

All contributions to this volume can be found at:

[http://www.ind.ku.dk/publikationer/up\\_projekter/2012-5/](http://www.ind.ku.dk/publikationer/up_projekter/2012-5/)

The bibliography can be found at:

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