

Contribution of scientific literature to veterinary education

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Introduction

By organising user education the librarians contribute not only to enhance the use of scientific information, but they also contribute to a wider educational project that aims to allow students to acquire the necessary skills for lifelong learning.

Veterinary education has to face with the incessant growth of knowledge and with the evolution of the profession. It has become impossible for the professors to teach everything, for the student to learn everything.

To allow scientific literature to become a valid tool for veterinary education it is necessary to recognise the importance of scientific literature as well as the importance of bibliographic education. Referring occasionally to literature is not enough to enable students to make autonomous and efficient use of scientific information. A real space and time has to be developed for the use of literature and for the development of bibliographic skills.

This communication aims to describe the trial that took place at the Faculty of Veterinary Medicine of the University of Liege during fall 1995.

Material and method

Following a decision of the Library Council, present author was charged to organise bibliographic instruction for the second year students and to evaluate the results of the training. Full results of the present trial, as well as a detailed description of the implementation of the bibliographic instruction can be consulted in the dissertation (1).

The Faculty of Veterinary Medicine of the University of Liege has a traditional curriculum. During second year, students have basic courses like anatomy, physiology, histology, biochemistry and statistics. During this second year, students actually have no specific need to use literature and few opportunities to use the skills they acquire during bibliographic training. Unlike second year students, fourth year students have real need to use literature and a lot of opportunities to use the acquired skills. During fourth year, for instance, students have to prepare a personal report, and are also asked to look for literature when presenting clinical case reports.

To be able to evaluate the efficiency of bibliographic instruction, and especially the impact of the opportunity students have to use acquired skills, bibliographic instruction has been evaluated for the second year students (N=130) as well as for the fourth year students (N=170).

First of all second and fourth year students were evaluated using the same pre-test. The test was made of 30 multiple-choice questions. Students had to choose the right answer or one of the general answers ("no answer is correct", "all answers are correct", "it is impossible to answer because information is lacking in the question" or "it is impossible to answer because the question is absurd") and had to give on their certainty degree. Results were analysed at the department of Education Technology of the Faculty of Psychology and Education Sciences by mean of a specific software, making it possible to obtain data for each student as well as data for each question.

After having performed the pre-test, students were randomly divided in groups of 10 students. According to the decision of the Library Council and considering the constraints of time, bibliographic instruction was mandatory for second year students and divided into two periods of 2.5h. For fourth year students, bibliographic instruction was optional and composed of only one period of 2.5h.

The main objective, considering the organisational constraints, was to enable students to conduct an efficient and autonomous literature search. Out of this main objective, three secondary objectives were developed:

1. to be able to use the library and its different services (e.g. have an idea of the library collections, be able to locate material, ...)
2. to acquire a minimal general knowledge about scientific literature (different information sources, different retrieval tools, ...)
3. to acquire a general method, rather than a specific technique, for information retrieval (to define the information needs, to choose the adequate sources and tools, practical use of information tools e.g. Boolean operators ..., critical evaluation of the search result)

The strategy used to train the students was based on a lecture with demonstration, followed by practical exercises.

The evaluation of the training was conducted at different levels. First of all students were invited to respond to questions concerning their satisfaction during attendance. In a second time a post-test was organised. Results between pre- and post-test were compared for all the students who did perform both pre-and post-test.

Results

Analysis of the data/student

The analysis of the results from pre-test shows that the mean result of the fourth year students is not higher than the mean result of the second year students. Figure 1 presents the distribution of the results at pre-test.

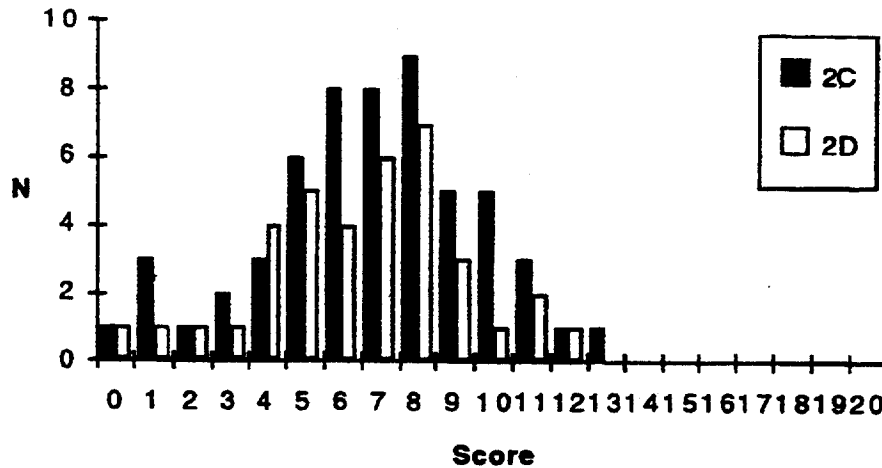


Figure 1: Distribution of the results at pre-test for second year (2C) and fourth year (2D)

Table 1 presents the mean result at pre-and post-test. Results between pre- and post-test were compared by calculating the relative gain which presents the advantage to minimise the influence of the result at pre-test. The relative gain indeed is the ratio presented in percentage between what has been acquired and what could have been acquired.

Comparing the results at pre-test and post-test of second and fourth year students it is clearly stated that the mean relative gain is the highest for the fourth year students having attended a training, although the fourth year training was shorter than the second year training.

	Pre-test	Training	Post-test	Relative gain
2 Y	4.4/20	yes	11.4/20	32.80 %
4 Y	6.9/20	yes	11.7/20	41.90 %
		no	7.5/20	14.30 %

Table 1: Comparison of the results at pre- and post-test.

Analysis of the data/question

The content validity of the different questions was measured using a specific coefficient. Analysis of the results for each question showed a good content validity for the different questions.

For each question the percentage (P) of students having chosen the right answer, as well as the mean certainty degree (C) of these right answers were calculated. Figure 2 and 3 show these data for pre-test and post-test. Considering the evolution of the percentage of students who did choose the right answer, as well as the evolution of the certainty degree for these answers between pre-test and post-test, it became possible to bring to the fore that the knowledge of the students did not only increase but that the students did also become more certain about what they knew.

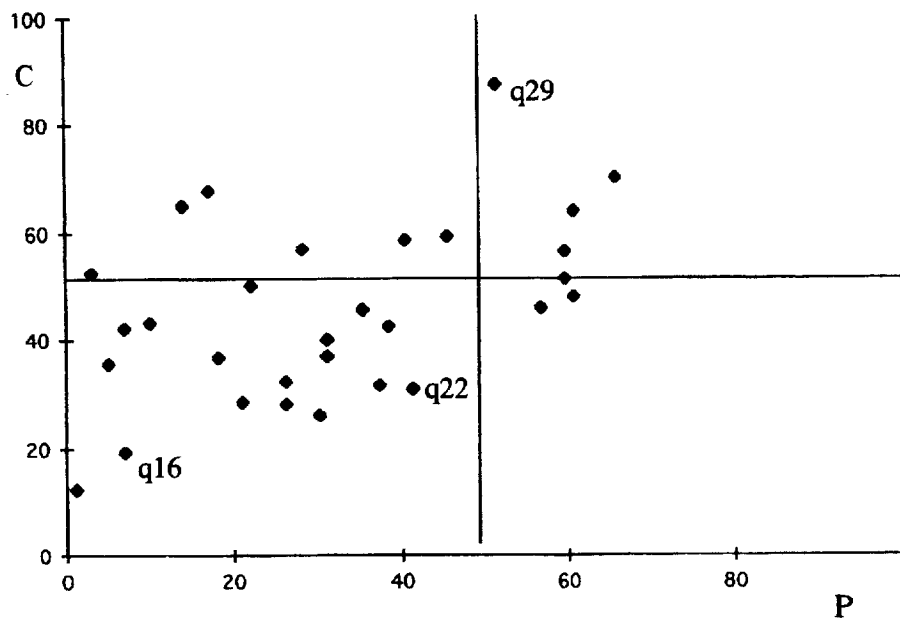


Figure 2: Percentage (P) and certainty degree (C) for the right answers at pre-test

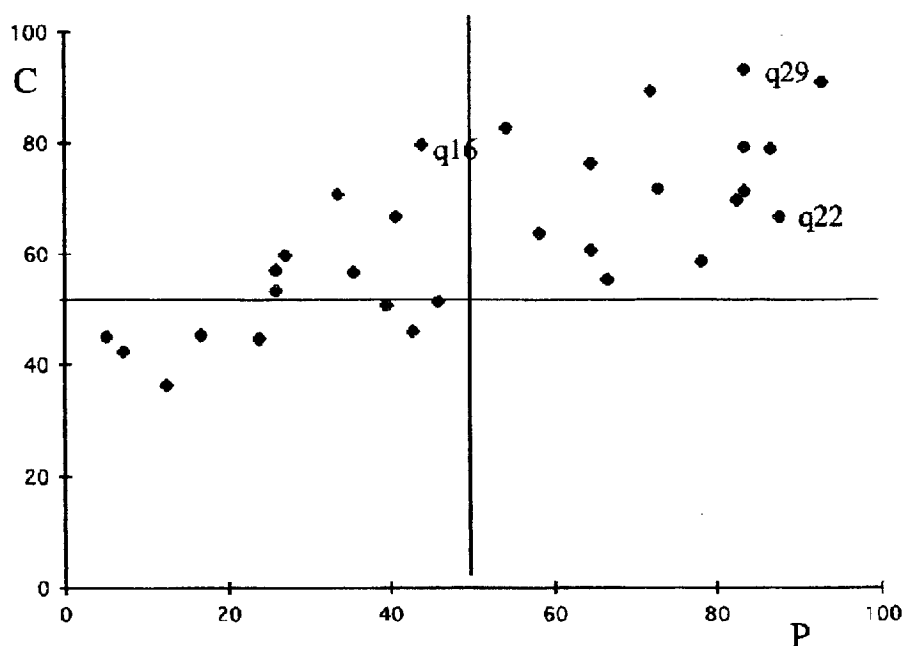


Figure 3: Percentage (P) and certainty degree (C) for the right answers at post-test

Discussion

The trial that took place at the Faculty of Veterinary Medicine of the University of Liege emphasises the fundamental influence of the opportunity that is given to the students to make use of the acquired knowledge. Having shown that the results at pre-test of the fourth year students were not higher than the results of second year students and although less time was dedicated to the bibliographic instruction of the fourth year students the relative gain is higher for the fourth year students having attended the training than for the second year students. The trial also demonstrates that even when bibliographic instruction has to be performed within a limited length of time (2.5h), knowledge and skills can be increased.

References

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